

The efficiency of the local governance in water resources management of the Moneragala district, Sri Lanka

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Abstract

Sufficient provision of water for the entire population in the country has become a challenging task of the government and all sector institutions. Local Authorities (LAs) in the country particularly the Pradeshiya Sabhas (PS) are one of the major institutions actively engaged in water supply, especially in drinking water supply in rural areas. The involvement of the PS in planning and constructions of water supply is limited due to various reasons while their importance of involvement in management of water supply schemes is higher. This research on the above theme was executed in the Moneragala district located in the Uva province and included in the dry zone of the country, comprising three significant agro-environmental and two climatic zones. Today the water is almost the only scarce resource in this fruitful agroland. Contrary to the demand, water availability and hence accomplishing people's necessities are becoming more and more difficult. Especially since 1980's the people in the Moneragala Secretariat Division (SD) have continuously been suffering from water scarcity. In this research, integrated ferocious causatives which have brought about in this sour effect, such as :absence of a proper maneuvering of the present natural resources in a sustainable manner towards a foreseeable future preventing their extreme exploitation, unavailability of a well-ventured, properly organized authority to manage water resource and water supply, lack of attempts by the present authorities to discover and draw on fruitful water resources in a manner of satisfying optimal geological parameters, and, lack of facilitating and provisioning by the relevant authorities for the projects initiated by CBOs employing productive water resources in a scientific manner, and applicable effective solutions to those problems are experimentally analyzed. In this purpose, we have used the integrated research methodology. While proceeding with discussion, a theoretical framework of rational decision making was used to examine the series of events described there.

Key words : Local Governance, Water necessities, Pradeshiya Sabhas, Moneragala District, Water Resources Management, Water Availability, Water Scarcity

Importance of the study

Water is central to human existence and its central availability is severely limited in many regions of the world. By the middle of twenty first century 45-65 percent of the world population are expected to experience conditions of water stress or water scarcity (UN, 1994).¹

'Between 1950 and 1995 the per-capita availability of water resources dropped by almost 70 percent in South and Central-Asia, by about 60 percent in North-Asia, and by about 55percent in South-East Asia In 2025 the water availability per capita in the region will be between 35-15 percent less than the level in 1950(ADB,2001)'.²

By 2025 half of Asia's projected population of 4.2 billion is expected to live in urban centers where increasing urbanization, industrialization and profligacy are likely to put severe pressure on water availability.³ In view of the increasing competition for available water resources and the need to provide drinking water and sanitation as the first priority, the production of food to meet the needs in 2025 will have to be accompanied by a dramatic increase in the overall efficiency of irrigation water use.

'Domestic and industrial water demands in Asia are growing rapidly at rates projected to range from 70 to 345 percent between the1995-2025. Water for domestic use is still inadequate despite large investments in water supply systems since the 1980's. About 750 million people in rural areas another 100 million in urban areas still have no access to safe drinking water' (ADB,2001).⁴

Industrial demands continuous to rise; because water is treated as a social, not an economic commodity. The rapid development and adoption of water- efficient technologies is inhabited. Global ecological balance is also critically dependent on water. The water scarcity impacts on health, availability on food and the conditions in which people live. The poor are particularly

¹,World Population Prospects: The 1994 Revision, UN, New York,1994

², Water For All : The water policy of the Asian Development Bank, 2001,PP1-5

³ Ibid,P.4

⁴, Water For All : The water policy of the Asian Development Bank, 2001,P.5

vulnerable when water is either unclean or in short supply. Wide spread water pollution resulted in increased water scarcity; poorer public-health; lower agricultural yields; and a declining quality of aquatic life in lakes, rivers and costal waters. According to the statement adopted by the International Conference on Water and Environment (ICWE), 1992: 'scarcity and misuse of fresh water pose serious and growing threats to sustainable development and protection of the environment'.⁵ Ignoring that collective important statement, Wally, N'Dow (1996) focusing only on the scarcity of water argues that it is replacing oil as a flash point for conflict between nations in an increasingly urbanised world.⁶ These arguments could have been further developed by considering the issues of water quality, water resource distribution, accessibility, population growth, increasing urbanization, industrialization, and geo-political situations. Our research is focused to investigate which of these factors impact on the Sri Lankan situation and effectiveness of local governance bodies to emulate them with a special reference to Moneragala District. On the other hand, conducting research on water and the responsibilities and duties of the governing bodies help to generate powerful consequences for politics and policy, find out their mistakes and develop their capacity (Brooks, 2002).⁷

Introduction

Moneragala District lies in the Dry Zone of the country. Furthermore, geo-climatically it is the most diverse district in Sri Lanka. Having three significant geo-climatic zones including a Mountainous wet zone within a dry zone (Jayantha Atapattu, J., *verbally*, 2003).⁸ Being included in the ancient "Wellassa", means the area of hundred thousand paddy fields, there should have been abundant water supply in the district. Even though there was no massive development of larger reservoirs and canals in the ancient *Rohana* like in the ancient *Rajarta*, the major feature of the irrigation system of the ancient *Rohana* County was small village tank (Gam Wewa) system (Mendis D.L.O., 1990).⁹ After watering its relevant paddy field, each of this small-tank was connected to another such tank, nourishing it. Still there are remnants of a cascade Wewa system associating the streams flow from Jeelon Mountain of the Moneragala city. That indicates an invisible hand has been involved to ruin these tanks for the purpose of collapsing the self-sufficient economy adhered to paddy cultivation. Actually, the British rulers had supposed, by means of doing so the locals would have become labourers at their tea plantations (Jayantha Atapattu, J., *verbally*, 2003).¹⁰ As a result of that, today, water is the only scarce resource for the Moneragala agrarian society and a crucial factor in achieving cultivation and for drinking purposes. Contrary to the increasing demand, water availability and hence fulfilling these necessities are becoming more and more difficult. Especially, since 1980's the people in the Moneragala Secretariat Division (SD) have continuously been suffering from water scarcity. This effect is brought about by several integrated ferocious factors: absence of a proper maneuvering of the present natural resources in a sustainable manner towards a foreseeable future preventing their extreme exploitation, unavailability of a single, well-organized authority to manage water resources and water supply, lack of attempts of the present authorities to discover and draw on fruitful water resources in manner satisfying optimal geological parameters, and, lack of facilitation from the relevant authorities for the projects conducted by CBOs employing fruitful water resources in a scientific manner.

Rationale

Poor water resource management of the relevant institutions has affected a set back in social existence in the Moneragala district and to relapse the agricultural harvest during the last decades specially in the Moneragala (SD) exerting a financial embarrassment on its agrarian people ensnaring them into an economical vicious cycle. To resolve characteristic socio-economical problems of a population in a specific region, there should be an acquainted administration. The PSs were expected to act as the coordination centres between the central sovereign power and the peripheral local people, for a streamlined development process. They were empowered under the

⁵ ICWE (Instrumental Conference in Water and the Environment), The Dublin Statement and Conference Report, Geneva World Meteorological Organisation, 1992

⁶ Wally, N'Dow, UN- Habbitat II Conference, Istanbul, Turkey, 1996

⁷ Brooks, D.B., Water : Local level management, International Development Research Centre, Ottawa, ON, Canada 2002, p. VIII

⁸ Interviewed Jayantha Atapattu, J, Deputy Director of Agriculture –Moneragala, 9th April, 2003

⁹ Mendis D.L.O., Arthike Vimasuma, Lake House, 1990, P.37

¹⁰ Interviewed Jayantha Atapattu, J, Deputy Director of Agriculture –Moneragala, 9th April, 2003

number 15 Pradeshia Sabha act in 1987 to make the people participated in and convinced actively on local administration and development activities.

Although this is the present situation resulted after 18-year existence of the Pradeshia Sabha (PS) system in Moneragala SD, welfare wise a huge expectation was kept on PSs at their initiation. Under that act, public health, public utility services, and, public facilitation and welfare activities can name as the major fields of responsibilities attributed to the PSs. Our mission here is to reveal to what extent have achieved the above basic demands, the agrarian and drinking water, by the Moneragala PS, applying the authority vested to the PSs by the legal act. At the same time, we expect to criticize defects and inefficiencies as well, of that PS with regard to its strategies have undertaken to water resource management and water supply within the Moneragala Secretarial Division.

Methodology

We have used mixed approach (or quantitative and qualitative) methodologies to collect data on above theme. Establishing mutual research benefits or social equivalent is an example of negotiating a meaningful research story (Hollywood, Andrew, 2002).¹¹ By maintaining the above explained atmosphere in our research and by taking care to ensure mutual benefit, we tried to minimise any possible unequal relationships in the methodology of the research process. In the context of avoiding the proliferation of unequal relationships in the methodology of the research process Galtung developed a conception of non-violent social science research which is liberated from the tendencies of exploitation, penetration, fragmentation and marginalisation (Woolman, David, 1984)¹²

Exploitation which he identified with the practice of “doing research on people” could be lessened in my research by adopting the approach of a dialog between ourselves and the informants. In this relationship the verticality of the scholar – informants axis were abolished. In addition the selection of the research topic from an important area to the people that is water and local governance empowered us to stand up against any guilt of exploitation. Penetration is identified as the manipulation of the subject by the researcher in an unequal relationship. This was counteracted by equality and having become a participant with the people in the research process as in focus group discussion. Fragmentation resulting from random sampling was a fact which was difficult to minimise as the time and resources to approach a large array of people was difficult. Marginalisation is conceived by Galtung to be a consequence of the asymmetry perceived by social scientist between social science as a codification of the world and the actual social reality. The anti dote is regarded as open, two-way dialog between researcher and the subject population. The interactions as well as some other observations differed from one group to another were insights and phenomena that we would never be able to gain only through individual interviews. The analysis of secondary data aims to provide a macro profile and the context of the water and local governance. The research utilizes available secondary data from archives and publications about the topic. Meteorological reports and records about rainfall and evaporation were considered as well. The interviews taken from upper level leaders were used to cross check some crucial issues that we found in secondary data sources. Confidentiality and anonymity were strictly considered in filling out questionnaires. A statement of introduction at the beginning of the questionnaire included the purpose of the research, and assurance of confidentiality and anonymity. The interviews were conducted after giving an explanation of the research and the interviewees were asked about their will on confidentiality and permission. For the convenience of documenting the data we used tape recording during the interviews. We interviewed 125 informants, 25 per each 05 villages in Moneragala SD.

Research limitations

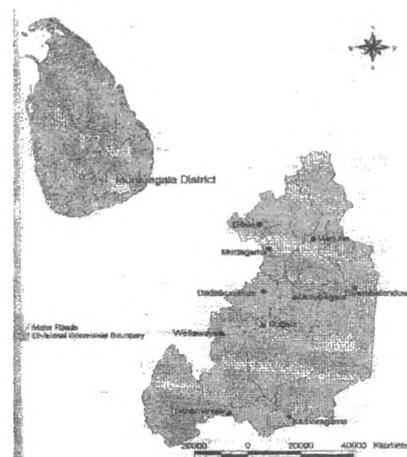
Moneragala district is second only to the Anuradhapura district in massiveness. This district has 11 secretarial divisions (SDs). If we consider the extent only of the Moneragala DS, it is similar to the Ratmalana electorate of the Colombo district. Moneragala DS occupies 26 Gramasewaka divisions (GSDs). Considering this massiveness of the Moneragala SD, we had to confine our studies to the areas having only diverse entities, encompassing urban, rural and colonized

¹¹ Hollywood, Andrew, *Doing and Writing Qualitative Research*, Sage Publication, London, 2002, P.163

¹² Woolman, David, *Education and World order: A Thought of John Galtung and nine other American scholars*, UMI Bell and Howell company Ltd., Michigan, USA, 1984, P.42

populations with different socio-economic backgrounds. Hulandawa-Left village of the Kahambana GSD represents a rural and colonized society, Pansal Watta and Gala Uda Watta represent urban areas, and Kumara Watta and Aliya Watta represent (Tamil) estate labourers' slums.

We had to confine the analysis of the water problem in these areas to: deterioration of water quality, deterioration of water quantity, irregularities and constrains of the Moneragala PS, water supply problems and officialdom, due to the limited financial and time availability. We were unable to conduct scientific investigations on surface water quality due to lack of facilities.



The assigned relevant responsibilities of Local Governance Authorities

The responsibility of supplying common utility services was in the past vested with local authorities. Water supply had been considered an important and a priority service in Municipal Council (MC) areas. Similarly, water supply has been referred to as service under part V of the Urban Council (UC) Ordinance 129 (Public Assistance Services), and section 108 (Common Utility Services) of the PS Act. Section 272 (4) and (28) of the MC Ordinance, section 157 (12) of the UC Ordinance and the Sections 104, 105 and 114-118 together with a detailed description on domestic water supply referring to the Section 126 (xiii) of PS Act empower the respective Local Authorities to make by-laws in regard to water supply work.¹³ Section 117 of the same Act illustrates that a supply of water for domestic purposes by PS shall not include a supply of water for purposes of irrigation. Although provisions existed in those Ordinances in regard to water supply the function was not performed by all Local Authorities. Urban Local Authorities that decided on supplying water and other Local Authorities in areas where under ground water was not suitable for use undertook this function in the form of water supply schemes of their own. These Local Authorities passed by-laws for the management of the service in accordance with the provisions of the Act and set up Water Works Divisions. When National Water Supply and Drainage Board (NWSDB) was setup in 1974 on a policy decision of the government, many of these water supply schemes were taken over by the board while some Local Authorities retain this service. Even those Local Authorities whose water supply schemes were transferred to the Board had for several years being promised water in bulk from the Board for distribution. However, all work connected with the distribution of water continued to be handled by the NWSDB and there are only a limited number of independent water supply schemes (Commission Report of Local Governance, 1999).¹⁴ Yet, as identified by the recently attested National Policy for Water, that water and sanitation facilities have not been expanded in rural areas parallel to the booming population. Hence CBOs, after been legally empowered and achieving the government approval are proposed to maintain and manage rural water supplying and sanitation programs (National Water Supply and Sanitation Sector Facilitation Programme, 2004).¹⁵ In order to proceed this process, interim amendments will be added to the PS Act following the regulations provided by the (Attested Interim) PS Act No. 6 of 1952 and PS Act No. 15 of 1987 (National Water Supply and Sanitation Sector Facilitation Programme, 2004).¹⁶ After being approved of these amendments by PSs, CBOs will be given permission to construct and maintain water supplying systems in rural and semi urban areas and to extend those systems from urban to rural areas. Further, they will be able to get financial facilities and capital investments for these works and other support from donor agencies.¹⁷

Theoretical frame work

We are concerned with two primary segments of the decision theory: community decision-making as described by the political scientists and aids to rational decision making. By examining quite closely the actual case of the inefficiency of the local governance bodies in water resources management of the Moneragala district in the point of view of the community decision-making, some generalities may be found which will enable one to predict the behaviors

¹³,PS Act, Government publication Burro,Colombo,1987,P.

¹⁴,Report of the Commission of Inquire on Local Government Reforms, Government publication Burro, 1999,p.187

¹⁵, Revised final documentation of Interim act for Rural Water Supplying Systems maintenance by CBOs, National Water Supply and Sanitation Sector Facilitation Programme (Phase III),Colombo, 2004,p.2

¹⁶, Revised final documentation of Interim act for Rural Water Supplying Systems maintenance by CBOs, National Water Supply and Sanitation Sector Facilitation Programme (Phase III),Colombo, 2004,p.2

¹⁷ Ibid

of decision makers in communities faced with similar problems. Next, the illustration of the consequences of using aids incorrectly to decision-making should cause increased interest in using aids correctly (Robert, R., Lee, 1964).¹⁸ In indication of the interdisciplinary nature of the subject can be found by referring to bibliography on decision-making compiled by Wasserman and Silander (1958).¹⁹ Included are references under such headings as 'Values an Ethical Considerations in Decision-making', 'Leadership as a factor in Decision-making', 'Community Decision-making', 'Psychological factors in Decision-making', 'Decision-making in Small Groups', 'Communications and information handling', and 'Mathematics and Statistics in Decision-making'. The study of decisions has received attention only recently because of; 'a major challenge to the focus and purpose of classical theories of organization and administration; extensive research on the factors which influence the way in which individuals and groups make decision: and the application of mathematics and statistics to the analysis and solution of military and industrial problems'.²⁰

General situation of water in Moneragala

The origin of the most of water resources and streams in Sri Lanka is the upper Uva; that means areas such as Welimada, Passara, Bandarawela, Lunugala and so on. The cash crop cultivation is abundant in these areas (Jayantha Atapattu, J., *verbally*, 2003).²¹ Higher volumes of agrochemicals are added to water resources from these areas such as: pesticides, weedicides and fertilizers. This has ushered the Upper Uva to be one of the highest cancer patient congregated region in the country (Jayantha Atapattu, J., *verbally*, 2003).²² The impact of long term pesticide use in Moneragala area on the health states has not been studied properly (Jayasinghe, S., 2002).²³ Without any available research data on this topic the above mention hypothesis can't be statistically prove (Manamperi, 2002).²⁴

Existing water quality with drinking water slandered in Moneragala District

Parameter	Unit	Desirable limit	Permissible limit	Total number of sample analysed	Percentage of samples within permissible limits	Percentage of sample above permissible limits
Electrical Conductivity	µs/cm	750	3500	527	99.6%	0.4%
Calcium	mg/l as Ca ⁺⁺	100	240	421	88.8%	11.2%
Hardness	mg/l as CaCO ₃	250	600	527	97.5%	2.5%
Iron	mg/l as Fe ⁺⁺	0.3	1.0	527	94.9%	5.1%
Fluoride	mg/l as F ⁻	0.6	1.5	527	82.7%	27.3%
Chloride	Mg/l as Cl ⁻	200	1200	526	99.98%	0.02%

The high Calcium in drinking water may also give rise to increased prevalence of renal calculi (Jayasinghe, S., 2002).²⁵ From field analysis it can be concluded that the ground water, shallow as well as deep, in at least parts of the Buttala, Siyambalanduwa, Thanamalwila and Wellawaya AGA Divisions is hard. The most probable is the application of irrigation water in historic time, with proper drainage. Evapotranspiration may have caused and accumulation of salt in the soil. In the same AGA Divisions ground water is found with high Fluoride concentration, well over 1ppm (Dissanyake & Weerasooriya, 1985)²⁶ it is identified that 'dental fluorosis and bone sclerosis due to excess of Fluoride and Haemosiderosis due to excess of Iron are the major environmental health problems common to the dry zone of Sri Lanka (Darma Gunwardhana,

¹⁸ Robert, R., Lee, Local Government and Public Works Decision-Making, Sanford Uni: PHD Thesis, 1964,p.10

¹⁹ Wasserman, Paul & Slinder, Fred, Decision-making –An annotated bibliography, Cornel University, Ithaca, New York, 1958, p.7

²⁰ William R. Dill., Administrative Decision-making: Concepts and Issues in Administrative Behavior, edit. Mailcock and Van Ness, Prentice Hall Inc.,1962,pp30-3.

²¹ Interviewed Jayantha Atapattu, J, Deputy Director of Agriculture –Moneragala, 9th April, 2003

²² Ibid

²³ Jayasinghe, S., Health Situation in Moneragala disrrict, MONDEP, Colombo, 2002,P.4

²⁴ Manamperi,A.S.P., Quality Assessment in Deep Ground Water in Moneragala District, MSc Dissertation, Post Graduate Institute of Science, Peradeniya University, Sri Lanka, 2002

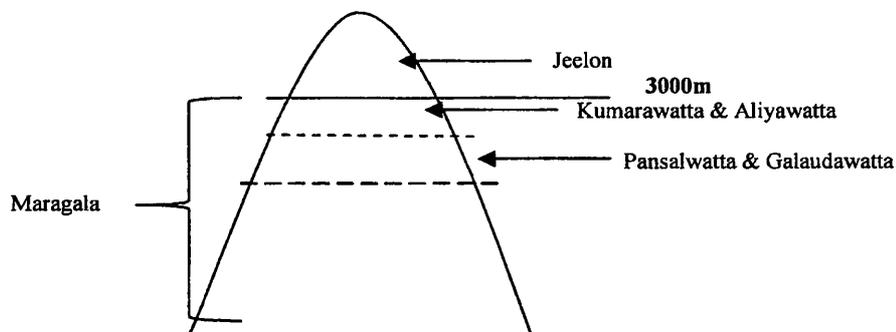
²⁵ Jayasinghe, S., Health Situation in Moneragala disrrict, MONDEP, Colombo, 2002,

²⁶ Dissanyake & Weerasooriya, The Hydro geochemical Atlas of Sri Lanka, Publication of Natural Resources, Energy and Science Authority of Sri Lanka,1985

1990 & Padmasri, 1995).²⁷ No detailed study has been done to investigate the factors controlling this natural hazard in Moneragala district (Manamperi, 2002).²⁸ Few researches have been launched within the district to investigate only the ion (such as F⁻, Ca²⁺) availability and their concentration together with the abundance of the hazardous micro-organisms (ADB Report in Sector Development Planning Project Moneragala District, 1991).²⁹ Water from tube wells (there were 652 tube wells in 1999)³⁰ 60 percent of the samples slightly contaminated with E-coli bacteria rest of samples intermediate to high risk. In 90 percent of the tube well water samples Coliform bacteria was at a high risk. Water from streams and rivers is contaminated with E-coli and Coliform bacteria but nevertheless 63 percent of water samples had an E-coli count at intermediate to high risk. Only 35 percent of dug well analysed showed an E-coli count at low risk level 84 percent had an E-coli count at high risk level (ADB Report in Sector Development Planning Project Moneragala District, 1991).³¹ Organisms of the genera, *Salmonella*, *Shigella*, *Escherichia* and *Yersinia*, are commonly referred to as Coliform bacteria (Gross, R.J., 1992)³² these bacteria cause intestinal infections such as typhoid, diarrhoea, dysentery. Intestinal infection is the fifth major cause for hospitalisation in Moneragala (Jayasinghe, S., 2002).³³

Research locality

The premier water resources in the Moneragala SD originated from the Jeelon Mountain. The zenith, above 3,000 feet of that Mountain is called Jeelon area; below that locates Maragala area. Using these water resources, the National Water Supply and Drainage Board (NWSDB) built an open reserving tank at Maragala area in 1980s with NORAD aids. That tank was supposed to use for the urban water supply. There was an another open tank built by the Gam Karya Sabha (the contemporary local governance body) above that tank, water descends from the Jeelon area is collected to this open tank and then flows downwards to the NWSDB tank over the road used to travel to the summit and to the dwellings of the Tamil labourers at Maragala Watta and Kumara Watta. Draining water to the downward washes travellers' feet and tires of vehicles. This open tank is used as a swimming pool of those people, and especially by people who come here for recreation at weekends. Washings and faecal matters of those labour colonies are added daily to the draining water in the Jeelon Mountain. Below the Kumara Watta and the Aliya Watta at the Maragala area, the Pansal Watta and Galauda Watta areas are located.



The population there consists of about 250-300 low-income families. Most of them live in clay shelters. These people always tend to earn extra revenue with illegal local drug businesses, especially the Kassippu, with the aid of the estate labourers. Raw materials used for this are released to the water nourishing areas. This water is chlorinated at the NWSDB water tank premises. But, there is no following of a systematic formula there; guessed amount of chlorine is added according to a labourer's will. Most important thing is the absence of water filtration, there. As a result, there is evidence of several incidents of finding faecal matters with drinking water. Even though the PS act has endowed the opposing power against water pollution by its 126th statement, Moneragala PS has not taken any step to bring them to a halt.

²⁷ Manamperi, A.S.P., Quality Assessment in Deep Ground Water in Moneragala District, MSc Dissertation, Post Graduate Institute of Science, Peradeniya University, Sri Lanka, 2002, p.21

²⁸ Ibid

²⁹ Ibid

³⁰ Manamperi, A.S.P., Quality Assessment in Deep Ground Water in Moneragala District, MSc Dissertation Post Graduate Institute of Science, Peradeniya University, Sri Lanka, 2002, p.18

³¹, ADB Report in Sector Development Planning Project Moneragala District, 1991

³² Gross, R.J.,

³³ Jayasinghe, S., Health Situation in Moneragala district, MONDEP, Colombo, 2002,

Deterioration of catchments area

Once, Jeelon was a natural forest area. Later, the British reign concluded to use this Mountain to grow coffee. After the rust disease, Coffee plantation was cast off and tea was initiated to plant. To maintain such a vast estate, a large number of labourers were needed. But Sinhalese people did not like to work as labourers. Therefore, rulers had to import the labour from South India. Later it was subjected to the nationalization, in early '70s. After 1982, all government estates were privatized. The result was that the Jeelon estate been partitioned to several blocks. It has been ruled under three consecutive entrepreneurs' up to now, orderly, the "Edna", "Siyambalanduwa Platanation", and the "Vajira Plantation". Until the privatization era there had been a large untamed tree cover as a reservation, there. Then returns from the estate with the time being became decreased gradually. Tea plantation was removed and rubber was the saviour. The financial erosion was not ceased even after. Therefore, the owners permitted the logging as one of the methods to compensate their loss, being insensitive of the importance of a catchments area. Finally, the Jeelon Mountain was occupied by the JDB, the People's Estate Development Board. Now the pinnacle of it is devoid of any economical plantations and still there is the rubber plantation confined to the middle and lower regions of the Mountain. However, those incidents have made a large number of estate labourers jobless. They dwelled in Maragala area and are used to cultivate several annual crops, such as manioc, pea, banana etc. Still they engage in cutting and firing trees for agricultural purposes, as a habit or for fun. A huge landmass above Meenachchi Watta has been destructed by this manner. On the other hand, there has not been taken any satisfactory measurement to improve their sanitation and living conditions by any of the estate rulers or a local governance body.

Deterioration of Water Quantity

The present gravity water tank, which can be seen behind the PS building, was first built by the Gam Karya Sabha (contemporary local governance body) in 1960s. Water was collected from Maragala Mountain using the gravity system and distributed from the tank using the same method. This water supply was continued until the early '80s decade without much trouble. In that era, water supply was limited to several numbers of government offices, the Police and the official apartments. With time, the number of the branches of governmental departments, banks, and apartments was increased. Urban population was erupted at once. It was an unavoidable necessity to increase the number of water supplies (connections). But, the capacity of the tank was not sufficient for such an expansion of water distribution. As an alternative, the NWSDB was entrusted to take the responsibility of saturating the consumer demand, building a new water tank. A twenty million-rupee fund was issued by the NORAD for this. NWSDB deposited that money in a bank. A long time passed without any sign of a new construction (Keerthisena, a former Member of the Uva PC, *verbally*, April 2003).³⁴

Finally, due to the clamour arisen from the local people and politicians, the NWSDB had to allocate that money. But, the matter cropped up then was the value of the Sri Lankan rupee had lowered largely than its proposed initiating time. Inflation had affected severely to the price of equipment. That embarrassment impacted to limit the present open stock tank at Maragala region to 33,000 gallons. Today, the water demand of the city is 2,450 cubic meters. Comparatively, this 33,000 gallons is a minuscule value to the latter figure. Therefore, the total of water collected to that stock tank is to be released continuously and in addition, the excess water that is unable to take hold of descends in vain.

There is no harm of water availability in the rainy season to the Moneragala SD, although the problem arises with the entrance of the drought. Then, there should be at least 1,750 m³ of urban water supply. The capacity of the NWSDB tank is a minute value even than that necessity. There is an additional water resource that the PS is using for sanitary purposes at Maragala area. The NWSDB is trying to acquire the right of that source also. Meanwhile, the PS is trying to prevail water supply widening their authority and declare the PS as a Town Council. This establishment will top up about 2,000 new urban water consumers. Therefore, the NWSDB claims that it is unavoidable for them to take the latter water resource over. However, there is no possibility to

³⁴ Keerthisena, a former Member of the Uva PC, *verbally*, April 10th 2003).

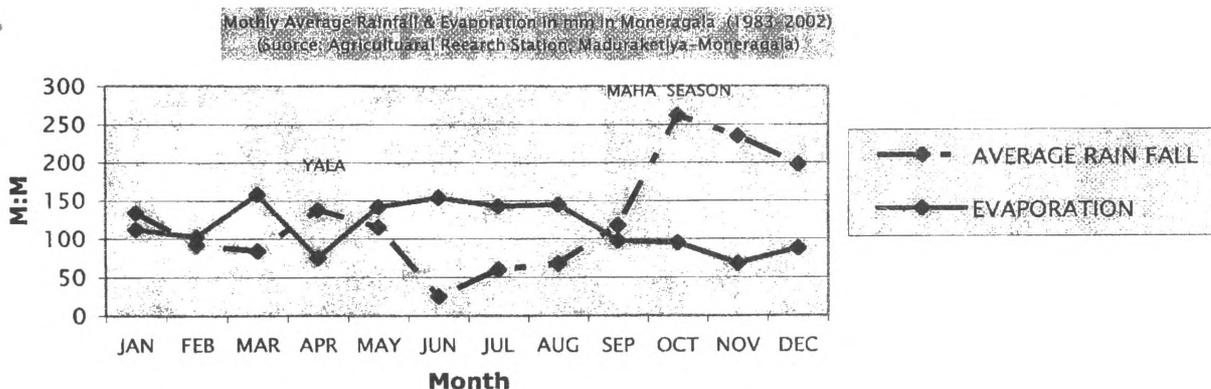
estimate whether it is sufficient or not until the next drought season comes to pass.

The NWSDB says, with a special cabinet decision the water supplying right of PSs has been cancelled if the number of consumers is below 1,000 within that PS territory and empowered to the NWSDB, in the contrary to the PS act. Due to this situation the authority of water resources of local governance territories has become a no one's baby. Really, it has disrupted the streamlined functioning of one of the major responsibilities of PSs. Final result of this dispute is being distracted the people from the PS, the basic democratic institute. Not all streams descend from the Maragala region of Jeelon Mountain have been subjected to the utilization. For example, we can show that water streams come from Kohilwatta area run towards the Maragala Oya untouched. Even if water runs from Raksha Watta and Jeelon area is being integrated into the urban water supply, its efficiency of utilization has not become to an ultimatum; there are leakages in transferring tubes because of the poor maintenance. A cluster of persons living in Meenchchi Watta at Maragala region, around 75 in number use a separate water source for their daily purposes. This water also flows downwards in vain after being utilized. No programme is there to make use of that water. Besides the stock tank of the NWSDB, another stream also gushes without any public use of drinking. The excess water emerges from the stock tank of the NWSDB also added to that stream. Some people use it for washings. NWSDB says they had a previous plan to make use of that water but it was frustrated lately.

Cause of water crisis

According to local people, some MPs, members of PSs, divisional secretaries (DSs), Gramsewaka officers (GSs), businessmen, and, officers of DWLC and department of forest of the district are keeping up mass scale logging industry. They point out this has exerted a colossal threat to the environmental sustainability and hence to the annual rainfall and is the major cause for the water scarcity of the district. It is obvious how the illegal logging has dispersed in the district, when have a look at the bulk of deteriorating pieces of arrested timber what have stacked in the district court premises. Anyone can scrutinize between 10-20 number of trucks with full of pieces of timber travelling across the Moneragala town every day. This district is especially a firewood-supplying centre of the Diyatalawa army camp; once we were met an old person who had sold trees of his ten acre land to the camp to a worth of 17,000 rupees. However, forwarding a research paper to the 14th volume of the Journal of Sri Lanka Soil Science Society, in 2002, Dr. B. V. R. Punyawardana of the Natural Resources Management Centre of the Department of Agriculture and Dr. Ranjith Premalal de Silva of the Faculty of Agriculture of the University of Peradeniya declare that according to their analysis, it is revealed that non rainy days in the North Central Province (included in the dry zone) has not shown any significant change over last 100 years or more provided that the present weather conditions continue to prevail in the dry zone of Sri Lanka.

Further, the forest clearing seemed not to be affecting the annual rainfall of the Moneragala region according to the rainfall data collected by the Maduraketiya Agriculture Research Centre collected between '83 and 2002. It is much distinct when scrutinize the data during the period 1991-2002. This creates the contradiction that the forest destruction either should have no link absolutely or should affect in a different mode to the water scarcity.

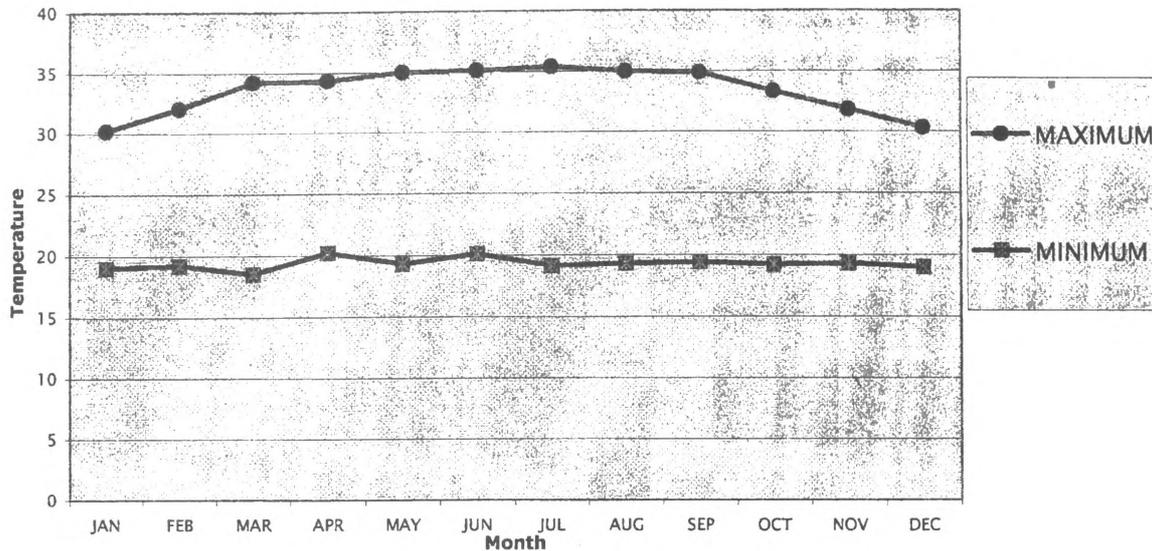


The consequence of removing the forest cover is the being open of the earth surface directly to the rain. That causes a soil erosion and next a lessening of the thickness of the surface soil layer.

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The soil science describes once this layer, i.e. the surface soil mass, was deteriorated the soil water capacity decreased and hence the volume of water leak through the soil in order to be added to the ground water table is also affected. Moreover, logging process opens the soil directly to sunlight. The aggregated result of these factors is the reduction of ground water table. This situation is common to anywhere in the nature. Any institution in the Moneragala area comprising the PS to reveal roots of this territory's water setback has conducted no scientific research.

Maximum and Minimum Temperature Variation in Moneragala District in C 0
(Source: Agriculture Research Centre, Moneragala).



Impact of reduce soil water capacity and deforestation for drought

When comparing to the mean monthly rainfall and mean monthly evaporation data of the Moneragala region, we can clearly see that the evaporation increases drastically before the Yala season, which span from mid March to mid May, comes. At this time, the considerable rainfall received at Maha season has almost been consumed. Further, the conventional rain that falls during the April month is a much less value. During March and September the maximum temperature behaves in a value closer to 35°C. The accumulation of these awkward reasons has fetched a severe drought to practice in the Moneragala Secretarial Division (SD) from May to September. That's why farmers have inclined to abstain from cultivating the Yala Season nowadays.

To damage to the banks of Kumbukkan Oya, contribute the permitted and illegal gem mining plus sand exploitation, which is illustrious and intensifying in the Moneragala SD, especially, even if this Oya flows beside the PS building. The effect is being attenuated its water level accelerate. Kumbukkan Oya has obtained its name due to the density of massive Kumbuk trees along its banks. These plants practice as water refineries. In reference to the present formalities of the forest department, dead Kumbuk trees are allowed to cut with no encumbers. A secret trend is there among local people to kill these trees using toxics like mercury for timber exploitation, taking the advantage of that law. As same as the water volume deterioration, water quality deterioration also is a collective affect.

Irregularities and Constraints

Not only the Moneragala SD, if we take the Moneragala district as a whole to the consideration, the key factor to the water trouble is the absence of single dominant authority. According to the irrigation act, of projects that provide agrarian water supply to more than 200 farmer families, the authority is assigned to the irrigation department. When the number of beneficiaries is in-between 50-200, the Agrarian Services Department is empowered on its manipulation. If only the number of agrarian beneficiaries is less than 50, the authority goes to the hands of the PS. Even under the Asian Development Bank granted National Water Supplying and Sanitation Sector Facilitation Programme of the NWSDB, the powers of PS have been submitted to an immense despoilment.

This project has empowered NGOs to lay down pipe line systems, to charge Rs.1,000 from each enlisted water consumer in order to append water meters in the future, to build water tanks, and, to arrange meetings and conferences to aware people on establishing consumer committees so as to being strengthen for the maintenance of future water works. If these committees are unable to maintain the outputs of that project by any mean then the responsibility goes towards the hands of the PSs. If PSs also frustrate in accomplishing the task, that are assigned to the NWSDB.

When considering the job occupancy or the origin of NGOs activated in water supplying projects, the majority is out of the region. This intends on the one hand, outdraw of money from the district that is to be accumulated for its well being, without a total gain to the original inhabitants. On the other hand, this sometimes results in entrusting the responsibility to a kind of people who lack a original sensitivity on the original matters of the area. Our common observation was that without in view of the local people's ideas, some aspects of governmental projects have launched through NGOs contract wise. According to some staff members of some of the NGOs, their directors to an unsatisfactory level of salary give them unaffordable task load. Such a frustrating condition leads to management failures and malfunctions in physical progress of their duties. Due to these impediments, we can infer that the expectation of a proper water supply in the expense of development endowments could have been viable if the PS was let to participate in them than NGOs. Except to the PS, National Water Supply and Water Drainage Board, Samurdhi Authority, NGOs, Rural Development Board, and, Southern Development Authority participate in water supplying. Unavailability of a proper hierarchy system among these institutes is a real nuisance to this region's development. Due to the subsequent mal-coordination, it is obvious the development matters being condensed clandestinely. This brings many opportunities to corruption and irregularities, as a general incident. The rationale of the water scarcity in the Moneragala district is the dearth of the under ground water. But, under the Asian Development Bank granted water supplying and sanitation (partial) project of the NWSDB, most of the activities of NGOs have targeted the ground water table.

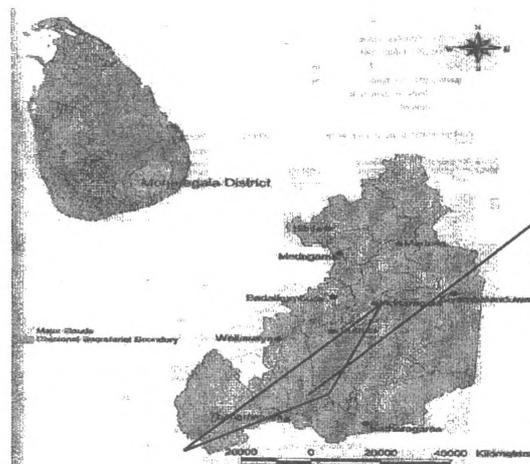
At the Hulandawa-Left drinking water project, the proposed tube well has located at the edge of the Hulandawa village close to the Hulandawa-Left canal. This is the lowest land of the village. Even if a stock tank were built there for the tube well, a gravity water supply would be impossible. So, a huge cost would be born for an artificial pumping. People suspect if this project is implemented the ground water table would decrease sooner or later and their cultivations will be damaged. The farmers' associations inhabiting this area question why this project does not use other water resources in the area run unproductively towards the Maragala Oya; without exerting much effort and bearing a huge expenditure they can bring into play boomingly as in Kawdawa. The lethargic policy of the PS, even if the gemming activities and sand exploitation injure the riverbanks is distinct, reveals that they have no sufficient authority to confront on behalf of the sustainable utility of water resources and catchments areas and the importance of conserving them for the future generations. When consider the drinking water problem of the urban people, it is lucid that the PS has neglected water necessities of the Maragala area lingering numerous socio-economic problems. Out of 300 families there, water facility has been provided to around only ten families. For a number of families (between 100-200) living on Gala Uda, on the way to Kumaradola, possess only single tap from the urban water supply. These people can create a water work to fulfil their agrarian and domestic requirements using the idle water drains through this area. But the matter is their inability to being organized and to motivate through the right pathway plus that they are not being led by any of the responsible institutes.

Water Supply Problems at Hulandawa-Left village

At the Hulandawa-Left GSD, we had the opportunity to observe closely to what extent that the PS has been prolific to apply the constitutional responsibilities corresponding to the rural water supply. There are 412 families in the Hulandawa-Left village. The total land mass cultivated there, is 275 acres. Out of that, land for the paddy cultivation is 212 acres. Therefore, the accountability of providing water to this area is included under the great irrigation system. Water supply to this area is done by the Hulandawa-Left water project of the irrigation department. However, there is no ordered water dispensing system from the Hulandawa-Left canal to paddy fields yet. People were introduced to this Hulandawa-Left colony located at the base of the Maragala Mountain, in around late 1950. According to the people's comments, there had been a water surplus in that era; water had oozed out on to the clay floors of their houses. So, it is an

interesting matter to investigate the incidents until the present water scarcity.

As the water scarcity in Moneragala SD was increased in the mid 1980, authorities had to approach towards alternative water supplying methods and water resources. For this, the demand had been for agro-wells and tube wells. The two tube wells that NWSDB built at Hulandawa-Left village became unusable later because of their bad water quality, i.e. the presence of higher concentrations of ions. Hence, when rice was prepared with that water, it turned into a blackish colour causing non-edible. There, it seems that the NWSDB has not followed the prescribed optimal requirements; according to Dr. Shanthi de Silva of the Open University, Some of them are: digging a tube well in the presence of a fragmented rock, excavating neighbouring tube wells as if they are located in three corners of a triangle where the first tube well situates at she centre point, maintaining the diameter of the excavation tube at the optimum value; i.e. two inches (Jayantha Atapattu, *verbally*, 2003). When studying the background of the failure of the tube wells constructed by the NWSDB, it is clear that they have been constructed refraining from undergoing a proper ecological assessment. Only futile money consumption has been happened here. According to the decision-making theory, using aids incorrectly should cause increased interest in using aids correctly (Robert, R.,Lee, 1964).³⁵ That has been realized in the incident of establishing "Swashakthi Foundation" as we discuss below. Even now, a considerable percentage of the deep tube wells in Moneragala district do not confirm to the guide line values of WHO standards of drinking water quality due to excessive amounts of chemicals in water (Manamperi A.S.P., 2002).³⁶ Concentration of Fe, F, Ca and Hardness in water is mainly controlled by geological characteristics of the area and it can be considered as 'natural pollution of deep ground water' (Manamperi A.S.P., 2002).³⁷ High evaporation and low rainfall pattern also affect the excessive amount of the F in deep ground water (Manamperi A.S.P., 2002).³⁸ According to surveys of Dr. Shanthi de Silva, the flourished regions of the Moneragala district with all the optimum conditions to build tube wells was a flourished triangle including Buttala, Sevanagala and Mandulla which is now occupied by the sugarcane cultivation (Jayantha Atapattu, *verbally*, 2003).



Optimal tube well triangle

Buttala was once called the "Bath-hala" that means the "rice store"; farmers say, after the sugarcane cultivation nothing can be cultivated in such a land. Entrepreneurs, together with the central government swayed land-possessed rice farmers to lease their lands in that prosperous region in the '80 decade. They were cheated and agreed to cultivate sugarcane on the contract basis (Jayantha

Atapattu, *verbally*, 2003).³⁹ There are 6000 very poor families attached to the sugar industry (Sarath, Chandrasiri, 2002).⁴⁰ This process remarked a critical point of the ecological hazard, water scarcity and the development problems of the District.

Remnants of a Cascade Wewa system

A flourished water source, namely the 'Galkada Ara' flows across this area. It does not dry even in the presence of the drought. With the aid of the local inhabitants, the Samurdhi programme has built a reservation tank across it without any purification for the drinking purpose. Howsoever,

³⁵ Robert, R., Lee, Local Government and Public Works Decision-Making, Sanford Uni: PHD Thesis, 1964, p.10

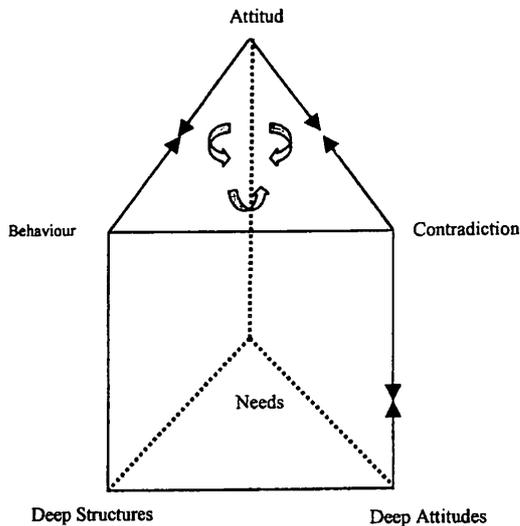
³⁶ Manamperi, A.S.P., Quality Assessment in Deep Ground Water in Moneragala District, MSc Dissertation, Post Graduate Institute of Science, Peradeniya University, Sri Lanka, 2002, p.25

³⁷ Ibid, 31

³⁸ Ibid, 41

³⁹ Interviewed Jayantha Atapattu, J, Deputy Director of Agriculture - Moneragala, 9th April, 2003

⁴⁰ Ibid



scale problems in this way will cause huge administrative troubles and then crises. According to ABC triangle, this type of problems occur in the social structure, between humans themselves, between sets of humans (societies) and between sets of societies (alliances, regions).

Deep structures and deep attitudes are the underline causes of the manifest violence or of direct, indirect, and cultural violence. Each and every component reinforces each other. Hence, in order to change manifest or overt level violence we have to change subtle conditions: deep structures, deep attitudes, and needs. According to Galtung, before we change the structures we have to emphasize on: Nature: Environment, Persons: Community Needs,

Social: Gender, Class, Human Rights, World: State System, Region, Civic Society, People, Culture: Religion, Sex, Cast, Traditions, Time: Intra Time and Inner Time, or otherwise there may crop up a chaos (Galtung, 1996).⁴³

People's Own Alternatives

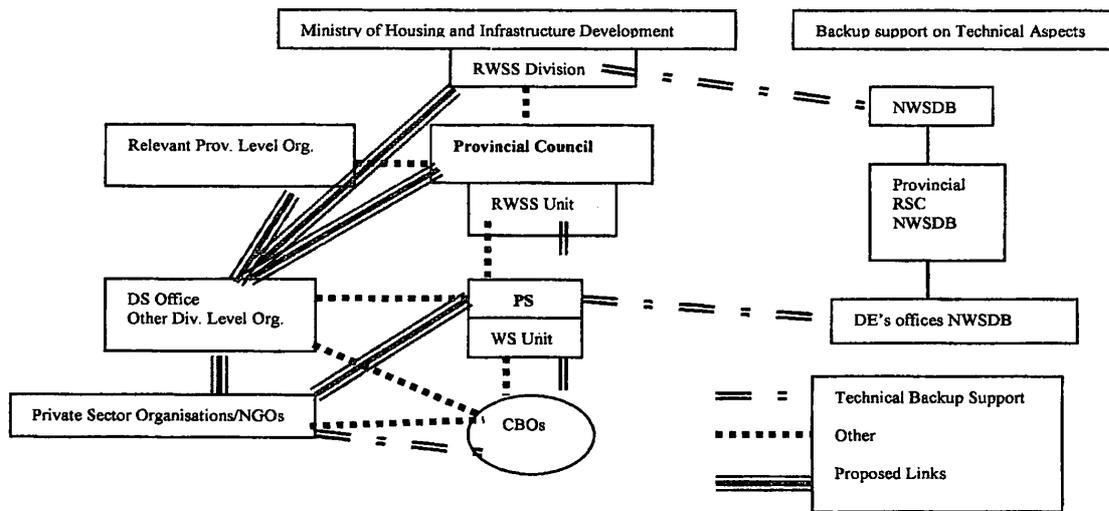
The opaque and corrupted activities and the distantness of the governmental institutions have already made distracted the Hulandawa-Left community. There, the people have organized and strengthened themselves against water scarcity being dissatisfied of the extent of mediation and sacrifice of the PS on that matter. Now (in 2003) they are gathered around the "Swashakthi Foundation" ('swashakthi' means: "power of own") for a proper resolution. This foundation was established under immense hardships in 1995 at the Galaboda Arawa village at Ellakona GSD of the Mandulla SD. There, a small number of families organized to collect a capital and then initiated a minuscule water project. Thereafter, that people formed a water consumer society under the same name. They have constructed now a cement tank of 8,000L based on streams flowing from Maragala Mountain, at the Galaboda Arawa village. Based on the Dunugolla Oya that flows from the same Mountain, they have been successful to build a 6,000L storage tank at Obbegoda and another 6,000L tank at Weliyaya. The PS had not participated in those activities. This community base organization (CBO), the Swashakthi Foundation, totally regulates the proper functioning of those projects. Local people are astonished why the PS does not forward to rent or takeover them. Actually, the committee members of the foundation are willing to hand over the total ownership to the PS if the PS accepts that. But the PS comments that they do not have a maintaining capability and cannot bear any responsibility. In the near future, this CBO is going to commence the Kithulgala Ella water project at Kolawinna village. There will be around 150 water recipient families of that project. Further, they have planned to launch another three projects; at Dambagalla for 50 recipients, at Kerela for 40 recipients and at Weliyaya (close by the Weliyaya II project) to 75 recipients. These magnificent, marvellous deeds reveal how powerful the people's organisability than the PS and illustrate their significance over the minuteness of the PS. On the other hand, because of their own hesitation and inefficiency, this pathway of making revenues is self-blocked by the Moneragala PS. Consistent with the decision-making theory, the degree to which a group's participation or lack of participation in making decisions affects its willingness to accept the outcome (Barnard, 1938)⁴⁴. Although the ADB has reserved Rs. 40 lacks for another water project at Galabedda through the department of Irrigation, the Swashakthi Foundation declares that they are capable of accomplishing this project successfully in 8 lacks of rupees. This means, here, if this foundation does not receive this opportunity, the corruption or inefficiency will destroys 32 lacks of rupees, which is characteristic to the governmental bodies. At a thorough analyze, the PS does not seem to have a ready to made self recover and enhance earnings and to be much closer to people. Another

⁴³ Galtung, J., *Peace by Peaceful Means*, Sage Publications, London, 1996, P.4

⁴⁴ Barnard, C.I., *The Functions of Executive*, Cambridge: Harvard, 1938, p...

critical factor affecting its progress as a well-organized and an efficient institution is lack of support and obstructions come from the government administrative officers, such as Divisional Secretaries (DSs). In one of the PSs, the presidency had achieved by the former driver of DS. So they do not think that the elected members of PS are honourable or responsible persons other than nitwits or henchmen of senior politicians, because most of the DSs are graduates or scholars. The ill cooperation and coordination between these two sectors finally affect to the deterioration of the PSs. As the 'Community Decision-making Approach' of the "Decision-making Theory" expresses, a decision to be qualified as a 'community decision' two requirements must be satisfied: a choice must be made by one in authority and the decision must involve community wide institutions such as local government and locally oriented private associations. Excluded are decisions which are made by "outside" governments or agencies or by groups not in authority. But, upto now the interconnection between and among the different intuitions of the local governance sector is to a large extent disrupted. For an instance, under the present situation the right of water supplying of PSs is taken over by the NWSDB, if the number of recipients is more than 1,000. Though, after being approved the suggested amendments to the PS Act, CBOs will be given permission to construct and maintain water supplying systems in rural and semi urban areas and to extend these systems from urban to rural areas obtaining financial facilities and capital investments from donor agencies including the private sector. On the one hand, this process can be described as an enhancement of section 12(1) of the PS constitution. But contradictorily, CBOs are allowed by this amendment to price themselves their services for consumers; it is not stated there that PSs must follow up quality of the water works of CBOs and relationships between CBOs and the private sector. That arouses a suspicion of a future risk of privatizing the water works of CBOs, sinking the needy people deep in the vicious circle of poverty, in case of their inability to manage and maintain such works.

Proposed Technical Back-up support Arrangement for Rural Water Supply



Suggestive solutions & Discussion

At the implementation stage of new reforms to the PS Act, PSs must follow up quality of the water works of CBOs and relationships between CBOs and the private sector to eradicate probabilities to privatize the water works of CBOs preventing opportunities to arise inabilities to manage and maintain such works. To be successful that objective, resource persons must be created and trained through national institutions including Universities as water technicians, engineers, sociologists, management bodies, and environmentalists. It is an urgent necessity to investigate the impacts of agrochemicals on the water quality within the Moneragala district (or at least within the Moneragala SD). It should get a robust action to conserve the streams drain across Raksha Watta of the Jeelon Mountain that also is used for the urban water supply. The cheapest and most beneficial thing according to our point of view is re-colonizing them elsewhere. To expect a proper duty from the PS, there should be a ground to put to the practice or realize their empowered authorities by the PS act. PS member must be guided by established advisors. Regulations must be adapted to be selected scholars only with social importance. If the Moneragala PS was appropriately allowed to participate in the activities of the Asian Development Bank granted National Water Supplying and Sanitation Sector Facilitation Programme of the NWSDB, the powers of PS would have not been submitted to such an

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immense disappointment. Then, the PS could have taken the advantage of this opportunity to earn a large revenue by depositing the advance money for water meters as the NGOs do now; if the PS had the people organizing opportunity then it could have taken mixed with its subjects to identify the real irritants of their day-to-day life relevant to the PS and thereby, it could have corrected its own defects of gathering information and the pieces of information gathered about its territory; then the PS could have achieved people's gratification by means of strengthening people and implementing the constitutional rights of the PS Act concerning the problems especially of the supplying of water. Furthermore, the PS has the constitutional right, as in the Section 12(1) to assign an advisory committee for shelter and community development purposes. They can even establish peoples' committees for the same subjects. But, the PS has not utilized any of these resources yet for the emollition of the major problem of the Moneragala district, the water scarcity. Without struggling to take over the only water source that the PS is using currently, the NWSDB can implement projects to utilize other water sources despite once they failed. Our observations justify the matter that it is possible to establish a proper water supply even now, if there is an apposite handling of money, an honest sacrifice from officers, a proper interrelation in between the government institutions and a sole right of water to a single institute. Otherwise, there will not be a long-lasting solution for this nuisance.

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River distribution in Moneragala DSD

