



## **TO THE PEOPLE OF THE WORLD**

I, in concert with other inhabitants of the drylands have experienced the brief rainstorms lasting about half an hour or so, usually at night producing the most beautiful music of multiple rhythms of rainbeat. Suddenly as they start, they stop, the sound changes to the dull monotonous themes of water cascading into streams on its way to distant places. Then it is time to wait for the next rain event in the next day or two or next week perhaps.

Thoughts on water are ever present in the minds of dry land inhabitants. Sayings, poetry songs and proverbs on the role of water in purifying cleansing, supporting and sustaining life are composed. Examples from different countries illustrate this:-

Uganda - Rain and plenty amount to the same thing.

Kenya - Wealth is water

Kenya - Water is the king of food

Malawi - A stream without sand does not hold water.

In these cultures the goddess of water signifies a mother's role as a springboard, protector nurturing of life.

Water shapes life in the dry lands. Inhabitants of the drylands have over millennia accumulated knowledge and developed coping mechanisms which have enabled them survive in these harsh lands. However for development of these cultures, traditional knowledge must be augmented by modern science and technology. In order to improve their living standards and livelihoods, innovation in water conservation and management is inevitable.

Without water, the greatest limiter of production in the drylands, there can be no development. Yet many areas of the drylands receive substantial amounts of precipitation during the short wet periods. This precipitation is normally high intensity and stormy in nature over very short periods. The bulk of the received precipitation however is subsequently lost through runoff. For these lands to produce wealth, this received precipitation must be retained where it falls.

In large areas of African drylands, water sources of last resort are known to be found beneath the dry riverbed sands. Traditional knowledge therefore acknowledges that there is water in the sand. This water is held in natural reservoirs made by an impermeable barrier across the stream/river filled with sand. This is a natural sand dam.

Using modern science and technology it is possible to make numerous sand dams designed to form a cascade reservoirs whose combined volume is gargantuan. For these man made sand dams, the water is held beneath the sand surface as in the natural ones. Evaporation losses are minimal. Water so stored can be used in the green water stream rather than being lost from the land on the blue water stream. Thus starting with the local knowledge of water in the sand and integrating modern scientific knowledge it is possible to make wealth and improve the living environment sustainably in the drylands based on water captured, held and stored by applying appropriate technologies sustainable for existent local conditions. While the water held in sand dams in stream/river channels forms a backbone for water harvesting and storages system supplementary techniques to slow runoff allowing percolation into the soil greatly increasing the total amount of moisture retained in a catchment, for use in agricultural production.

In the past, the tragedy for the dryland inhabitants has been the concentration for supply of quality drinking water using imposed inappropriate technologies without attention to recharge techniques. It is only when a critical mass quality water becomes available to the dryland inhabitants that development is possible. Without both quality potable and production water the drylands will forever remain undeveloped hungry and poverty stricken. This should not be so with the large groundwater storage capacity which is under utilized.

Let us use the available local knowledge in conjunction with science to increase ground water storage, hence land productivity, leading to poverty reduction, wealth making and improved livelihoods. We won't then wonder why Africa has never embraced the green revolution. A targeted portion of current food aid invested on water will make future aid redundant. Only then will the inhabitants of the drylands in Africa begin to achieve "The Millennium Development Goals.

Kitui, Kenya.

A handwritten signature in black ink, appearing to read "Samuel Mutiso". The signature is fluid and cursive, with a large initial 'S' and 'M'.