

Strategic plan 2014-2017 MetaMeta

1. Vision

MetaMeta is a private company (SME) that operates on the principles of ‘people, planet, profit’. It aims to develop services and product that have social value addition, that are innovative, that are not picked otherwise and that at the same time are commercially viable. MetaMeta does so by initiating activities and projects – ranging from local commercial services (i.e sales of useful products), field level implementation, capacity building and education, research and piloting to policy development (both local level and global). It also undertaken consultancy services (within the remit above) but the point of gravity is in research, capacity building and policy programs initiated by MetaMeta itself. The aim of MetaMeta is to contribute to major themes of sustainability, resilience, poverty reduction and governance by catalyzing new activities in the field of natural resource management.

MetaMeta Research undertakes applied research on water and natural resource management. It aims to complement these services with policy discussion, structured stakeholder engagement, program development and capacity development. We engage particularly in groundwater, surface irrigation, flood based farming, irrigation, drinking water, wet watershed management and transboundary water management.

2. Organization

MetaMeta does not pay dividend to owners but uses the profit margin to initiate activities on its own , i.e to kick start or add to the themes or provide activities with no or zero profit margin.

MetaMeta has offices in the Netherlands as well as registered offices in Ethiopia (January 2014) and Turkey (December 2014). It also has a foothold in Nepal, Pakistan and Yemen, of which it intends to consolidate two in the period 2014-2017. Having a point of departure at country level helps to roll out the themes that MetaMeta is developing.

The human resources strategy is to work with relatively young persons and persons that have a good practical foothold in the themes. The argument here is that this will create persons with strong attachment and empathy with the themes.

The financial strategy is to operate at low overheads: this makes it possible to engage in smaller assignment too, that can have considerable policy spin-off or allow new network engagement, serving the larger goals.

3. Planned Operations 2014-2017

MetaMeta Research has adopted 7 focus themes for the period 2014-2017. Activities under themes 1-6 started prior to 2014, but the scope is adjusted/ expanded in these themes. Theme 7 is entirely new.

- 1) groundwater management and groundwater governance,
- 2) flood-based farming and spate irrigation,
- 3) water buffering,
- 4) salinity management,
- 5) roads for water and multifunctional infrastructure
- 6) natural fertility management,
- 7) inclusive agriculture for people with disabilities and elderly.

The ambition levels for 2014-7 are given below.

Ambition levels and targets 2014-2017

| Theme | Ambition levels and deliverables 2014-2017 |
|---|---|
| groundwater management and groundwater governance, | <ul style="list-style-type: none"> - Contribute to increased global attention for groundwater management as major policy theme and work on including it in main programmes of at least four IFIs by leading contribution to Groundwater Governance Vision and Framework for Action - Make a significant contribution to raising solution for major groundwater hotspots, at least: <ul style="list-style-type: none"> - conjunctive management in mega-irrigation systems in South Asia - local groundwater governance in Yemen - innovative groundwater management and solid groundwater governance in North China plains - rapid exploitation of non renewable groundwater in North Africa/ Middle East - Help creation of activist civil society foundation that will raise ignored and contested groundwater themes - Develop good practice for management of the subsurface |
| flood-based farming and spate irrigation, | <ul style="list-style-type: none"> - Introduce programs on flood based farming in eight countries by 2017 – following from current four in 2014 - Develop a guidelines for sustainable development of flood based farming systems (esp. flood recession, flood rise farming and inundation canals) – following the model of Guidelines for Spate Irrigation - Develop farmer network under the Spate Irrigation Network Foundation - Mainstream in education in four countries |
| water buffering, | <ul style="list-style-type: none"> - Introduce 3R/ intensive landscape programs in 12 countries through local capacity building and trigger activities - Develop the agro-ecological and bio-physical component of landscape management (soil processes and managing of micro-climate) - Together with salinity themes raise the issue of water buffering in stressed coastal areas |
| salinity management, | <ul style="list-style-type: none"> - Develop comprehensive salinity management programmes (crop choice, water management, agronomic measures, innovative devices) in at least three countries by 2017 - Develop attention for salinity and mainstream in education in three countries |
| roads for water and multifunctional infrastructure | <ul style="list-style-type: none"> - Introduce road for water principles in ten countries by 2017 - Promote the concept with at least three IFIs and three international network - Develop first and authoritative social and technical guideline - Create practioners network of at least 300 members |
| natural fertility management, | <ul style="list-style-type: none"> - Introduce natural fertility management in two countries including new business model |
| Inclusive agriculture for people with disabilities/ elderly | <ul style="list-style-type: none"> - Create sensitivity and understanding of practicalities among five water and PWD organizations - Create joint activities (at least 3) between two sectors (PWD and water) - Start activities in two countries |
| New themes | <ul style="list-style-type: none"> - It is foreseen that in the period 2014-2017 at least one new theme is identified and beginning is made |

4. Sample activities

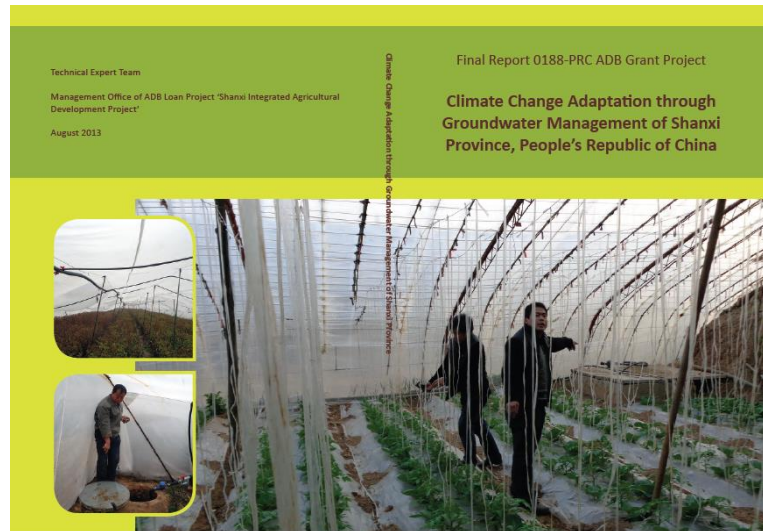
Sample activities are as below:

Groundwater management

Groundwater is a red line throughout the work of MetaMeta Research and forms the core of its activities. Groundwater is our most precious and divine resource and MetaMeta believes the only way forward to have groundwater sustain our lives and economies it through combining many measures and be highly innovative. MetaMeta carries out groundwater related activities in Ethiopia, Yemen, India, Pakistan, Nepal, and China.

Climate Change Adaptation through Groundwater Management of Shanxi Province, People's Republic of China (2012 – 2013) (Client Asian Development Bank) (Approx. Value of Services (in Current US\$): 59,800 USD.-)

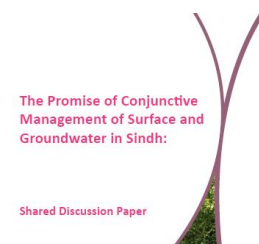
The aim of the ADB project was to strengthen agricultural production in 26 counties in the Shanxi Province. Complementing the project was a grant aimed to support farmers by introducing water conservation and energy-efficient water use practices to increase climate change resilience and halt declining groundwater levels.



This assignment was part of a Technical Assistance to support farmers to adapt water-saving technologies. The activities included support for purchasing and installing water-saving and monitoring equipment. The focus of support was on poor households who would borrow from the Project to make a transition to high-value and less water demanding crops. About 150 houses were provided subsidy to purchase water-saving irrigation equipment. The subsidy will encourage them to adopt modern irrigation technology without additional cost and will show-case the benefits of this technology to other farm households. The Project will also develop and conduct direct and indirect skills training of an estimated 5,000 farmers to adopt modern and environmentally sound water-saving techniques.

Groundwater and Resilience in the Indo-Gangetic Plain (2013-2014) (Client: British Geological Survey) (Approx. Value of Services (in Current Euro €): 50,000.-)

The study was initiated to better understand the large groundwater system in the Indo Gangetic Plain and particularly how it will respond to climate change and other pressures. The study is regional and also covers India, Nepal and Bangladesh. A series of typologies is prepared to described the aquifer systems, its management (incl linkage to surface water and irrigation) and the impact of climate change and other pressure



Training Conjunctive Management of Surface and Groundwater in Sindh, Pakistan (NUFFIC) (Approx. Value of Services (in Current US\$): 64,000)

The project aim was to train staff of SIDA and associated organization in the conjunctive use of groundwater in the large irrigation systems in Sindh as well as salinity management

Local Groundwater Management In Moghra Aquifer – opportunities, requirements, first steps



"Analysis of existing groundwater user models" in Egypt (Client: Daltex cooperation, EDEKA, WWF and GIZ)

The project was done under a partnership of Egypt's principal potato exporter Daltex Corporation, the German supermarket chain EDEKA, four other large-scale farmers of the Moghra aquifer, WWF and GIZ. This partnership aims to develop sustainable water management strategies for potato farming at the Moghra aquifer in the Beheira governorate.

The following activities were undertaken:

- Context analysis*
- Definition of objectives and approach to groundwater management in Moghra aquifer
- Development of program of activities
- Development of vision and code conduct
- Development of three potential groundwater user group models
- Immediate action plan

*The context analysis looked at international best practices in comparable environment and the relevance for Egypt. The context analysis also looked at the support structure and the enabling frameworks. It updated experiences on these in the countries where effort at groundwater management had been undertaken.

Flood-based farming and spate irrigation

Spate Irrigation for Rural Growth and Poverty Alleviation (2011-2015) (Client IFAD) (Grant: 1.2 million USD)

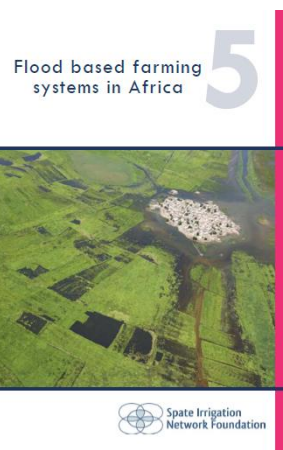
The project rationale is the scope for improved productivity and livelihoods in spate irrigation areas through applied research, knowledge management, network development and policy advocacy. This will be achieved by the activities of the project and by making use of the Spate Irrigation Network (SpN) - that exists since 2002 and is convened by UNESCO-IHE and MetaMeta. As part of the four year programme MetaMeta activities include, but are not limited to:

- Strengthening of the Spate Irrigation Network
- Development of innovative action research projects
- Capacity building, continuous knowledge development & dissemination
- project management
- project site visits and assessment review

Africa to Asia: testing adaptation in Flood-Based Resource Management (2014-2017)

(Client IFAD and EU co-funding) (Grant: 3.5 million USD)

The project will scale up ongoing initiatives on 'Coping with climate change in flood-based resource management systems (FBRMS). FBRMS are neglected in most countries prone to climate change, yet have considerable economic potential and is a quintessential adaptation to climate change. The project in particular will introduce promising practices (approaches to adaptation, agronomic practices and varieties) in eight countries, Afghanistan, Pakistan, Uganda, Ghana, Malawi, Ethiopia, Sudan and Yemen.



Harnessing floods to enhance livelihoods and ecosystem services (2014-2016)

(Client: CGIAR/WLE) (Grant: 495,001 USD)

This research for development explores how to optimize the use of floods for agriculture and ecosystem services to support livelihoods in different landscapes and socio-economic settings in Sudan and Ethiopia. In Sudan, flood based farming systems are several hundred years old, whereas in Ethiopia investments have accelerated in recent years. Despite the high risk due to unpredictable nature of the floods, the high sediment loads and the frequent changes of riverbeds, FBFS contribute substantially to local food security and economic development, particularly for poor farmers and pastoralists in the lowlands. Recognizing the importance of FBFS for local livelihoods and economies, the Ethiopian and Sudanese governments started investing in the improvement of infrastructure (weirs, intake and canals) and on-farm practices to enhance agricultural productivity. However, it

is unknown how these interventions at scheme level interact with other functions provided by floods at the local and landscape level and how these interventions affect the livelihoods of different stakeholders.

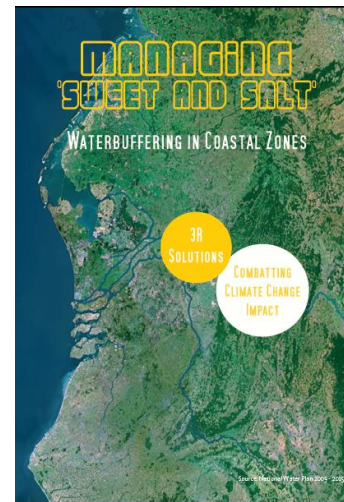
Water buffering

3R Book Coastal Zone Management (Client: BGR)

Delta environments are dynamic – they harbour cities, ports, industries and tourist and leisure facilities. They are intensely developed not only for urban development but also for aquaculture and farming. This places extraordinary demands on water. At the same time coastal environments are in the frontline of climate change. They deal with high and low water tides as well as spring tides. Yet sea-level water rise and sometimes increasingly frequent cyclone surges are upsetting the equilibrium and may change the balance of fresh and saline water. Located at low elevation land subsidence causes major changes in hydrology: different run-off patterns and exposure to flooding.

This makes coastal areas prime areas for better water buffering – making sure more fresh water is retained in these special often saline environments. This will increase the availability of water for the various uses and ensure that the natural systems are not compromised. By storing peak flows the risk of floods may be reduced. It calls for better recharge of groundwater, for retention of surface water and the considered reuse of water, following the 3R approach.

As all coastal zones are different, solutions are different but there are many localized opportunities – that are often not tapped into. This book (under preparation) presents a list of case studies of coastal zone management where water buffering has taken into practice.

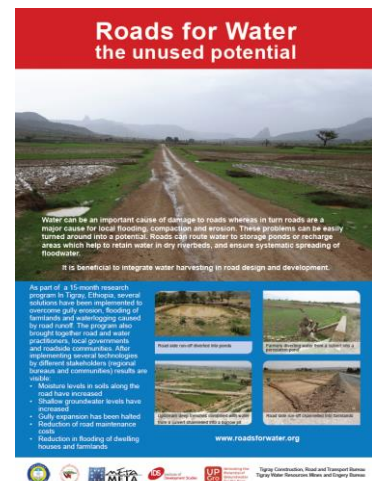


Roads for water and multifunctional infrastructure

UPGRO: Optimizing road development for groundwater recharge and retention (Client: NERC) (Approx. Value of Services (in Current US\$): 142,854.80)

This research has investigated how to optimize groundwater recharge and retention from road building in Ethiopia. Investments in roads in Ethiopia, as in the rest of Africa, are substantial - surpassing any other investment in infrastructure.

This project aimed to unravel the influence that different road types/structures have on groundwater resources and their impacts on road communities' socio-economic development. It will take place in the Tigray and Oromyia regions of Ethiopia where substantial road building is on-going. The variety of topographies, rainfall conditions and socioeconomic diversity make it possible to both explore the impact of roads on groundwater tables and their impacts on diverse social groups.



Yemen: Development of Guidelines on Road Water Harvesting (Client IFAD)

A guidelines is prepared and translated in Arabic in support of the Rural Growth Project (USD 150 M) – describing the governance process and the techniques and opportunities of integrating water harvesting from roads as part of on-going rural investment program. This consists of:

- Stakeholder discussion
- Field reconnaissance
- Preparation of guiding documents
- Workshop
- Training plan for road engineers and agricultural specialists.

Salinity management

Salt tolerant potato to Feed the World, Pakistan

(Client:USAID) (Grant: 500,000 USD)

Zilt Proefbedrijf has identified a salt tolerant potato variety that can be cultivated with saline water (up to 16 dS m⁻¹) and on abandoned salinized soils. Compared to the international standards, this potato variety is 4 times more salt tolerant. Zilt Proefbedrijf and MetaMeta want to start testing the growth performance under various saline conditions. This project focuses on agricultural production exploiting these saline resources. Regarding saline waters and soils as resources, it is not only an agricultural innovation that has a clear and direct impact on water usage, it is also a low tech and low cost solution.



The project will provide (i) a salt tolerant potato for chronic saline land and water resources in the coastal zones, broadening the diet in Karachi area, (ii) a crop for the farmers, who abandoned their salinized plots in the more inland irrigation systems of the Indus, (iii) a crop who is able to use the otherwise unproductive leach water in the land reclamation programs, (iv) a crop which can be irrigated (on purpose) with saline water resources in order to save fresh water for less salt tolerant crops.

The focus in year 1 will be on the validation of the growth performance under saline conditions in Pakistan. One of the key metrics to be tested is the potato yield in Pakistan. In the first year both in Pakistan and in The Netherlands the growth performance will be monitored so comparable data will be obtained. During two consecutive seasons the yield in The Netherlands was about 25 ton per hectare and this should be achievable in Pakistan as well.

Natural fertility management

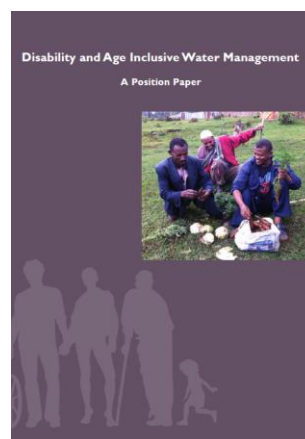
Smallholder farmers rock dust project

(Client: Getaw Mekonnen Mixed Farms, ANCEDA, Vocational training centre Arsi Negelle, FTC Holeta, FTC Solulta) (Value of services: 170000 US\$)

Smallholder farmers in Ethiopia struggle with low yields, e.g. for cereals as wheat and teff often not exceeding 1 ton/hectare. Poor soil quality is among the main contributors for the low yield. Soil degradation is mainly caused by unbalanced nutrient cycle: farmers ‘harvesting’ nutrients from the soil without replenishing. Often crop residues are fed to cattle, and cattle manure is used as fuel for cooking. Besides chemical fertilizers (like DAP and Urea) are for the majority of the smallholder farmers - living in remote rural areas – not available (physically), and if available not accessible (financially). In this project we train smallholder farmers in remote areas to re-balance prevailing nutrient cycles (producing bio-fertilizers) using an integrated approach (also including more efficient cooking methods, etc.)

Inclusive agriculture – for people with disabilities / elderly

MetaMeta and Enablement make an urgent plea to address chronic extreme poverty by seeking practical ways of including people with disabilities and the elderly in agricultural water management. A position paper will be prepared and published in 2015.



will

5. Outlook and operating principles

Following through with our activities, we continue resting on a healthy financial basis, guided by our corporate values and driven by our proactive stance. As idealistic project developer, we purposely work with stakeholders in challenging contexts to sustainably develop and enhance living environments.

Our outlook includes

- A continued agenda setting around our areas of expertise; spate irrigation, fast learning methods, groundwater, flood based farming, natural parks and water 3R¹.
- engaging policy makers, financiers, learning centres, companies and general public using modern media, innovative formats and MetaMeta products: relating internet, video and tv with water, ideas books and cartoons and media package training
- learning from what is there and what happens - actively re-using experience and expertise in capacity development and dissemination programs

We want to increasingly focus on helping to resolve real issues – working from multiple assignments and engaging different partners at different levels. We believe the company structure that we have suits this. It allows us to work very fast and react to opportunities and be engaged in an issue with different partners, making it possible to bridge, to stimulate and to contribute.

The following are the operational principles in MetaMeta:

Growth perspective

The aim of MetaMeta is to maximize impact. If this requires the company to grow it will do so, but growth is not an aim in itself. At the time of this document MetaMeta had 30 professional staff.

Work with partners

MetaMeta in principle works with like-minded partners. It also actively will look for larger organizations to multiply impact on some of the themes

Emphasize the practical

In its activities MetaMeta explicitly concentrates not on the big idea only but also on the practicalities and the how to do. In general the strategy is that by offering the acting perspective responsibilities is bestowed on different parties – as one knew what needed to be done, there is no excuse not to act.

Open access and communication

MetaMeta subscribes to the Creative Commons and in principle conform with Creative Commons Attribution License 4. MetaMeta through its subsidiary MetaMeta Communications aims to move a step further and share the results pro-actively and in attractive (multi-media) formats – in line with the objectives of promoting the themes.

¹ 3R stands for Recharge, Retention and Reuse - the main elements in managing the water buffer and tackling water scarcity at scale.