

Belachew Mehari Beyene

IRRIGATION & AGRICULTURAL INFRASTRUCTURE EXPERT

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EDUCATION

- MSc in Project Planning & Management (Thesis ongoing), YOM Institute of Economic Development.
- BSc Degree in Irrigation Engineering, Arbaminch Water Technology Institute, 2002 (Arbaminch University).
- Advanced Diploma in Irrigation & Drainage Engineering, Arbaminch Water Technology Institute, 1992.

PROFESSIONAL MEMBERSHIP

Member of IRUN (Irrigation Rainfine United Nationalities) since 2015 – a voluntary development, multinational enterprise with the motto:

“Aid food security and poverty alleviation through the extension and protection of green space worldwide, in a climate change threatened world.”

OTHER TRAININGS

Basic technology, Design, Installation and Management of Center Pivot Systems and Sprinkler Solutions

Rainfine Irrigation Technology, Dalian, China · April 2015

Agricultural and Farm Management Training (for Sugar Corporation)

Regional Training Center, Reduit, Mauritius · 11 June – 20 July 2012

Kaizen training

Ethiopian Kaizen Institute, Addis Ababa, Ethiopia · August 2012

Project Management for Agricultural Professionals

Siart International Management Training Centre (SIMTC), Manzini, Swaziland · August – September 2006

Supervisory Management

Ethiopian Management Institute · February 2003

EXPOSURE & TRAINING VISITS

USA	Agricultural mechanization & Center Pivot Irrigation Systems @ Nebraska & Kansas.
South Africa	Tongat-Hullet Sugar estate & Bell Agricultural Equipment.
Swaziland	Simunye Sugar estate.
Brazil	Cozan-Rhizan Sugar complexes, Sugarcane Biotechnology Institute, Embrapa Agricultural Research Center, Dedini industrial technology.
India	Jain Irrigation Systems hydraulic institution, irrigation materials production.
Mozambique	Sena Sugar estate.
Mauritius	Medine Sugar estate, Mauritian Sugar Industry Research Institute (MSIRI).
Sudan	Kenana and White Nile Sugar estates.
China	Agriculture mechanization research at China Agricultural Machinery Engineering Company (CAMC) / SINOMACH; agricultural technology & machinery at YTO & KAT; construction equipment production facilities at SINOMACH, SHANTUI, XCMG; pump design and manufacturing industry at Shanghai East Pump; and Center pivot irrigation systems at RAINFINE irrigation solutions.

LANGUAGES

LANGUAGE	SPEAKING	READING	WRITING
Amharic	Excellent	Excellent	Excellent
English	Excellent	Excellent	Excellent
Oromiffa	Trace	Trace	Trace
Italian	Trace	Trace	Trace

EMPLOYMENT RECORD RELEVANT TO THE ASSIGNMENT

Portfolio & Project Manager

Abay Industrial Development · Ethiopia · Mar 2023 – To date

Supporting the formulation and implementation of the company's projects (5,000 tons-per-day cement plant project): project management, contract administration, project financing, logistics. Initiation, formulation and study of new projects for the company's future investment.

Sugar Project Coordinator

Abay Industrial Development SC · Ethiopia · Nov 2018 – Feb 2023

Review of feasibility study documents of Tana Beles Sugar estate, costing & updating it for the planned Tana Beles-II sugar complex; scoping & preparation of TOR & tender document for detailed feasibility study & design of Tana Beles-II sugar complex; valuation of existing infrastructure at Tana Beles; formulation of civil works of Abay MDF project; professional support to Abay Cement project.

Senior Irrigation Engineer / Team Leader

AGRIPOL International Consultancy & Training Plc (KISCOL) · Kenya · Aug 2023 – To-date

7,000 ha drip irrigation system. Assessment of irrigation system and preparation of integrated irrigation and agricultural planning for Kwale International Sugar Company Limited (KISCOL); implementation support.

Team Leader (freelance)

AGRIPOL International Consultancy & Training Plc · Ethiopia · Jan 2022 – May 2022

Design review of intake structure and main pumping station (10 m³/s capacity) [Omo River], for Ethio Sugar SC.

Senior Irrigation Engineer (freelance)

Tapanta Depot Trading Plc · Ethiopia · Apr 2022 – Sep 2024

Study & design of small scale irrigation schemes; working on electromechanical system design of irrigation systems (submersible, axial and surface pumps); solar equipment for pumping systems focused on green energy usage.

Consultant (freelance)

Metaferia Consulting Engineers · Ethiopia · Jan 2020 – Jun 2020

Study & design of 3 schemes irrigation project of the Ethiopian Institute of Agricultural Research (EIAR).

Consultant (freelance)

Ethio Coffee FC · Ethiopia · Sep 2020 – Jun 2021

Study, design & installation of turf irrigation system & domestic water supply system from borehole source.

Consultant (freelance)

Shodeb Engineering · Ethiopia · Jul 2019 – Jun 2021

Study, design, supply and installation/construction of Kulumssa Sprinkler Irrigation system (of EIAR).

Technical Advisor

Dagim Dereje IMPEX PLC · Ethiopia · Oct 2019 – Apr 2020

Technical support, review of feasibility study documents for edible oil processing & honey processing projects.

Project Coordinator

Abaya Gelana Agro Industry · Ethiopia · Feb 2018 – Jul 2018

Feasibility study of Abaya Gelana Sugar complex on 12,000 ha net irrigable sugarcane development area; design of irrigation systems for nursery, seed propagation & commercial development areas; construction/installation of irrigation systems.

Associate Consultant

AGRIPOL International Consultancy & Training PLC · Ethiopia · Jul 2016 – To-date

Resource base assessment of Condor Flower Farm for Elite Agro; water resources assessment for Tana Beles command area; various activities related to irrigation study, design and specification.

Senior Irrigation Engineer (Consultant)

Abaya Gelana Agro Industry · Ethiopia · Jul 2016 – Jan 2018

Review of feasibility and design documents of Abaya sugar project; tender document preparation and tender processing for the supply & installation of pressurized irrigation system; various technical support to the client regarding irrigation, land development and agricultural mechanization.

Senior Irrigation Consultant (freelance)

National Tobacco Enterprise · Ethiopia · Oct 2017 – Jan 2018

Study and design of a pressurized irrigation system at Boku Koran for tobacco nursery development.

Associate Consultant

Industrial Project Services (IPS) · Ethiopia · Oct 2017 – Apr 2018

Asset valuation of the irrigation, drainage, domestic water supply and road infrastructure of the Tana Beles sugar project.

Consultant (freelance)

Mersa Habru Mixed Agric. Dev't PLC · Ethiopia · Oct 2016 – Feb 2017

Feasibility study, detail design, specification and bankable document preparation of Mersa Habru Agricultural development (orchards, vegetables and cereals).

Infrastructure Dev't Project Manager

Saudi Star Agricultural Dev't PLC · Ethiopia · Nov 2015 – Sep 2017

Design and implementation of irrigation system for rice production; feasibility study and design of center pivot irrigation system for Cheleleki coffee farm; feasibility study for the irrigation infrastructure of Limu coffee farm; design and installation of borehole pump for Almicom farm; design and installation of borehole pump & water supply system for rice processing plant in Debre Zeit; technical evaluation of bids for drip irrigation expansion work for AgriCEFT flower farm in Bahir Dar; various technical support to Gemadro coffee farm, Ayehu farm, Upper Awash and Almicom farms.

Director, Agricultural Projects Directorate

Sugar Corporation · Ethiopia · Feb 2011 – Dec 2015

Vital role in the planning, feasibility study, detail design and implementation of major sugar projects of Ethiopian Sugar Corporation at Omo, Tana Beles, Kessem, Didhessa, Wolkite, Tendaho, Fincha and Wonji – cane development, land development, agricultural mechanization, irrigation systems and other infrastructure. Also a major input in realizing proper organization and management at each project site, overseeing operation & production platforms.

Member of Board of Management

Agricultural Mechanization Service Enterprise · Ethiopia · Dec 2013 – Dec 2015

Supporting the enterprise for scoping & modernizing its agricultural mechanization fleet and related operations.

Agriculture & Infrastructure Development Project Manager

Wonji/Shoa Sugar Factory · Ethiopia · Feb 2010 – Feb 2011

Implementation of pressurized irrigation system (drag-hose sprinkler & center pivots) at Wake Tio & Dodota command areas; land development, cane development and agricultural mechanization works for 3,000 ha; feasibility study & detail design of Wellenchiti irrigated cane development project; design & implementation of flood protection, drainage, road, electrical power supply and other infrastructure.

Water-related short-term trainer (part-time)

Ethiopian Sugar Development Agency training center · Ethiopia · Jul 2009 / 2010 / 2012

Training irrigation & agricultural engineers and agronomists on sugarcane irrigation design & management.

Irrigation & Agriculture Expansion Project Manager

Wonji/Shoa Sugar Factory · Ethiopia · Aug 2007 – Feb 2010

Design review & implementation of pressurized irrigation system (drag-hose sprinkler & center pivots) at Wake Tio & Dodota command areas; land development, cane development and agricultural mechanization works for 3,000 ha (600 ha at WT, 2,400 ha at DDN); feasibility study & detail design of Wellenchiti irrigated cane development project; design & implementation of flood

protection, drainage, road, electrical power supply and other infrastructure; construction of 561 residential houses with infrastructure for resettlement of people displaced from the project area.

Consultant (freelance)

Water Works Design & Supervision Enterprise · Ethiopia · 2009 – 2010

Design review of Ziway & Raya projects, Ziway Phase II pressurized surface irrigation system.

Consultant (freelance)

FRI-EL Green Power Ethiopia Plc · Ethiopia · 2009 – 2014

Review of feasibility study documents for irrigation and agriculture development of farm plantation at Omorate; design review of drip irrigation system for palm nursery at Omorate; equipment selection and supply of the main pumping station of the palm development project.

Head of Agricultural & Infrastructure Projects Department

Finchaa Sugar Factory · Ethiopia · Sep 2005 – Aug 2007

Feasibility study of Neshe pressurized irrigation cane development project (5,000 ha) with BRLi & Booker Tate; feasibility study of Finchaa East Bank pressurized irrigation cane development project (7,000 ha) with SOFRECO; design of irrigation structures and infield sprinkler irrigation system for 7,000 ha at the East Bank of Finchaa River; design, construction & installation of sprinkler irrigation system on the 700 ha and 300 ha parts of the East Bank project; design & installation of PS1-West and PS4-South sprinkler irrigation projects; study, design and installation of the GO4 gravity sprinkler irrigation system; various works related to housing, roads, electrical system and other infrastructure.

Senior Project Expert

Finchaa Sugar Factory · Ethiopia · Aug 2004 – Sep 2005

Study, design and implementation of Korke sprinkler irrigation project; study, design and implementation of PS5-North sprinkler irrigation project; design and construction of furrow irrigation system near PS1.

Irrigation Maintenance Supervisor

Finchaa Sugar Factory · Ethiopia · Jul 2002 – Aug 2004

Operation and maintenance of pressurized irrigation system and associated electromechanical infrastructure, including organizing and training of staff.

BSc Program (Arbaminch) / Summer Maintenance Supervisor

Arbaminch Water Technology Institute · Ethiopia · Sep 1998 – Jul 2002

Attended Arbaminch Water Technology Institute for the BSc program; served as an irrigation maintenance supervisor (at Finchaa Sugar) during summer & vacations in this period.

Irrigation Civil Works Inspector

GO3 Irrigation Project / Booker Tate Ltd (Tate & Lyle Technical Services Ltd) · Ethiopia · May 1997 – Sep 1998

Construction supervision of the GO3 Irrigation Project (2,200 ha sprinkler) under the British consultant, Booker Tate Ltd.

Irrigation Maintenance Supervisor

Finchaa Sugar Factory · Ethiopia · Oct 1996 – May 1997

Operation and maintenance of pressurized irrigation system and associated electromechanical infrastructure, including organizing and training of staff.

Acting Irrigation Maintenance Supervisor

Finchaa Sugar Factory · Ethiopia · Nov 1995 – Oct 1996

Operation and maintenance of pressurized irrigation system and associated electromechanical infrastructure, including organizing and training of staff.

Irrigation Civil Works Inspector

Finchaa Sugar Factory · Ethiopia · Feb 1993 – Nov 1995

Construction supervision of the sprinkler irrigation project (6,700 ha) at the West Bank of Finchaa River with the British consultant, Booker Tate.

ADEQUACY FOR THE ASSIGNMENT

Key areas and activities the expert has acquired, undertaken and delivered

- Assessment of irrigation & agricultural systems of Kwale International Sugar Company Limited (KISCOL) and preparation of an integrated planning.
- Feasibility study of various projects (agriculture, irrigation and agro-industrial nature).
- Detail design of modern irrigation systems.
- Furnishing details of electromechanical equipment (pumps, solar equipment).
- A thorough experience on determining agriculture mechanization & equipment requirements matched to irrigation field layouts.
- Preparation of specification of materials, works and services; a good knowledge of modern irrigation technologies and materials.
- Bid document preparation & evaluation.
- Project organization & management.
- Project manager, team leader, team player.
- Construction supervision, contract administration works including various construction and consultancy contracts; preparation of claims and counter claims.
- Quality control.

- Operation and maintenance of large scale irrigated schemes.
- Project appraisal, asset valuation.
- Capacity building (water projects).
- Community based project development experience.
- Electromechanical equipment specification works (various pumps, solar equipment).

REFERENCE TO PRIOR WORK & ASSIGNMENTS

01 ***Kwale International Sugar Company (KISCOL)***

Year 2023 – to-date · **Location** Kenya · **Client** KISCOL (AGRIPOL International Consultancy)

As a Senior Irrigation Engineer, the assignment aims at assessing the existing problems of KISCOL's irrigation infrastructure and determining the volume of incomplete works to prepare an integrated irrigation and agricultural development plan.

02 ***5,000 TPD Cement Plant Project***

Year 2023 – to-date · **Location** Ethiopia · **Client** Abay Industrial Development SC

Portfolio & Project Manager: initiation and formulation of projects, feasibility study, financing, logistics and contract administration of a 5,000 TPD cement plant project.

03 ***8,000 TCD Sugar Industry Complex – Feasibility Review***

Year 2018 – 2023 · **Location** Ethiopia · **Client** Abay Industrial Development SC

As Project Coordinator, carried out a review of a feasibility study of an 8,000 tons-of-cane-crushing-capacity-per-day sugar industry complex comprising a 17,000 ha planned irrigation system; preparation of various project documents for planning the whole project scheme and preparation of tender documents for various work packages of the project.

04 ***Lucy Farm Development & Various Small-Scale Irrigation Projects***

Year 2022 – to-date · **Location** Ethiopia · **Client** TATANTA Depot Trading Plc

- Irrigation system study and design.
 - Electromechanical equipment specification works (various pumps, solar equipment).
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05 ***Design Review of Intake Structure & Main Pumping Station on Omo River***

Year 2022 · **Location** Ethiopia · **Client** AGRIPOL International Consultancy & Training Plc · **For** Ethio Sugar SC

06 ***Kulumssa Irrigation Project, Ethiopian Institute of Agricultural Research***

Year 2019 – 2021 · **Location** Ethiopia · **Client** Shodeb Engineering

- Carried out the design review of sprinkler, drip and surface irrigation systems of the Kulumssa research center.
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07 ***Abay MDF/PB Project***

Year 2021 · **Location** Ethiopia · **Client** Abay Industrial Development SC

Project formulation to furnish the details of the civil engineering and infrastructure components of the Medium Density Fiber (MDF) & Particle Board (PB) industrial complex and

its integration with the engineering, supply and installation of machinery and equipment.

Preparation of terms of reference for the employment of a civil works consultant for the MDF & PB industrial projects.

Evaluation of bids for equipment supply of the mining facility for the Abay Cement Plant.

08 Kulumssa Irrigation Project, Ethiopian Institute of Agricultural Research

Year 2019 – 2021 · **Location** Ethiopia · **Client** Shodeb Engineering

- Carried out the design review of sprinkler, drip and surface irrigation systems of the Kulumssa research center.

09 Kulumssa Irrigation Project, Ethiopian Institute of Agricultural Research

Year 2019 – 2021 · **Location** Ethiopia · **Client** Shodeb Engineering

- Carried out the design review of sprinkler, drip and surface irrigation systems of the Kulumssa research center.
- Worked out the BOQ and specification of materials for the sprinkler irrigation system and the pumping station.
- Technical assistance on the procurement of irrigation materials.
- Construction supervision of the irrigation system.
- Commissioning of the project.

10 3 Schemes Irrigation System (Debre Zeit, Melkassa & Melka Werer)

Year 2020 · **Location** Ethiopia · **Client** Metaferia Consulting Engineers (MCE)

The 3 Schemes Irrigation projects belong to the Ethiopian Institute of Agricultural Research Center, with irrigation facilities planned at the Debre Zeit, Melkassa and Melka Werer research sites; the feasibility study & design assignment was commissioned to MCE. The planned irrigation systems at each research center comprise center pivot irrigation systems, solid set sprinkler systems, drag-hose sprinkler irrigation, drip irrigation and surface irrigation systems, as well as flood protection & drainage facilities. Main activities carried out on these projects:

1. Review of feasibility works.
2. Detail design of the pressurized systems.
3. BOQ and specification of irrigation materials.
4. Comprehensive design reports and operation & maintenance guidelines.

11 Study & Design of Irrigation Facilities to a Soccer Field

Year 2020/21 · **Location** Ethiopia · **Client** Ethio Coffee Sport Club

- Borehole pump selection & installation.
- Design of domestic water supply system to the guest house and players' camp.

- Design, specification, supervision of the installation of the turf irrigation system to the football field (ongoing).

12 **Resource Base Assessment for a Flower Farm**

Year 2018 · **Location** Ethiopia · **Client** Elite Agro Company (of UAE)

Resource base assessment for the acquisition & establishment of a floriculture farm near Meshenti (Bahir Dar, Ethiopia), with specific focus on surface & ground water resource base assessment and electromechanical equipment & water mobilization scheme, as an associate consultant to AGRIPOL International Consultancy & Training PLC.

13 **Bid Document Preparation for a Pharmaceutical Warehouse**

Year 2018 · **Location** Ethiopia · **Client** Mirudan PLC

Developing a concept note and technical project proposal for a pharmaceutical warehouse in Rwanda for Mirudan Plc.

14 **Feasibility Review & Project Preparation of Four Projects**

Year 2019/20 · **Location** Ethiopia · **Client** Dagim Dereje IMPEX PLC

Preparation of project profiles, definition of parameters and feasibility works of an edible oil processing plant, a honey processing plant, a pharmaceutical formulation system and an auto assembly plant.

15 **Abaya Gelana Sugar Project**

Year 2016/17/18 · **Location** Ethiopia · **Client** Abaya Gelana Agroindustry PLC (YENCOMAD PLC)

- Review of feasibility documents and overall planning of the pressurized irrigation system on a 12,000 ha planned sugar project downstream of Gidabo dam.
- Evaluation of the detail design of the irrigation system for the 2,200 ha part of the area under center pivot & dragline sprinkler irrigation, to be developed in the first phase of the project.
- Design, construction & management of the irrigation system for the sugarcane nursery.
- Design and installation of irrigation systems for the initial seed cane & seed cane nursery areas on 4.5 ha and 100 ha respectively, comprising pumping stations, pipeline networks, land development and cane development & management works.
- Preparation of various TORs to engage consultants for the study and design of the flood protection system, main canal extension works, environmental & social impact assessment of the project, etc.
- Preparation of progressive technical reports as demanded by potential financiers of the project (such as IFC – World Bank).
- Working out the temporary organizational structure.

16 **Study & Design of Irrigation System for Tobacco Nursery (Boku Koran)**

Year 2017/18 · **Location** Ethiopia · **Client** National Tobacco Enterprise

Study & design of the Boku Koran irrigation system for tobacco nursery: a dragline sprinkler system at Boku near Wonji, with a riverside pump station at the Awash River.

17 **Asset Valuation of the Tana Beles Sprinkler Irrigation System**

Year Oct 2017 – Apr 2018 · **Location** Ethiopia · **Client** Industrial Project Services (IPS)

- Asset valuation of the Tana Beles sprinkler irrigation system, roads and other infrastructure encompassing a diversion weir, main canal (60 m³/s capacity), and sprinkler irrigation network, roads & other infrastructure over a 22,000 ha area.

18 **Gambella Rice Project**

Year 2015/16/17 · **Location** Ethiopia · **Client** Saudi Star Agricultural Development PLC

- Design and implementation of irrigation system, road and drainage infrastructure on 10,000 ha of rice plantation. Design revision and construction of the main canal (first 21 km, 22 m³/s capacity) and the infield canal system for a 3,000 ha command area carried out during this period.
- Submersible pump selection and installation (120 m borehole) and pipeline works to the rice processing plant in Debre Zeit.

19 **Feasibility Study & Design of Irrigation Facilities – Horizon Plantations (MIDROC Group)**

Year 2016/17 · **Location** Ethiopia · **Client** Horizon Plantations (Ethio AgriCEFT, Upper Awash, Limu Coffee farms)

- Consultancy services for study & design of irrigation activities on the farms under Horizon Plantation (Gemadiro Coffee, Ayehu farm, Upper Awash Agro-Industry, Almicom farm, Limu coffee farms, etc.).
- Feasibility study and design of a supplementary irrigation system for the Cheleleki coffee farm with a center pivot irrigation system to modernize the coffee production systems.
- Selection & installation of submersible pumps to a borehole at the Almicom farm (Raya).

20 **Study & Design of Irrigation Facilities for a Mixed Farm Development**

Year 2016/17 · **Location** Ethiopia · **Client** Mersa Habru Mixed Agriculture Development PLC

- Study and design of center pivot, dragline sprinkler & drip irrigation systems for commercial cereal, orchard, coffee and vegetable development.
- Bankable document preparation of the project.

21 **New & Expansion Sugar Project Development**

Year 2011 – 2015 · **Location** Ethiopia · **Client** Sugar Corporation

- Director of Agriculture/sugarcane development, in charge of the Tana Beles, Kuraz, Wolkaite, Tendaho and Kesseme sugar projects, the Wellenchiti expansion project of Wonji/Shoa Sugar Factory, the Neshe expansion project of Finchaa Sugar Factory, and the Arjo-Dhidessa Sugar Project – covering land development, irrigation, agricultural machinery and cane plantation aspects. Scope was extensive: total area to be covered by cane at completion exceeds 200,000 hectares, compared with a total area of 85,000 hectares in Ethiopia as of 2013.
- Participated in the portfolio planning phase of the Tana Beles, Wolkite and Kuraz sugar projects (75,000 ha, 50,000 ha and 175,000 ha irrigated area respectively), on how to study and implement the irrigation systems and agricultural aspects of the projects, and was consequently responsible for the general development and production plan of the above projects.

22 **Tana Beles Sugar Project**

Year 2011/12 · **Location** Ethiopia · **Client** Sugar Corporation

- Design and implementation of a 200 ha sprinkler irrigation system for sugarcane nursery development, including construction of a riverside pump station and installation of a UPVC/HDPE pipe system for mains and distribution (2011).
- Follow-up of the feasibility study and detail design of the project on 75,000 hectares of net cane-growing area to supply three sugar mills.
- Provided training to the consultant, guided and participated in the design of the 10,000 ha sprinkler irrigation network in the Beles command (2012).
- Involved in monitoring the construction activities of the diversion weir, main canal of 60 m³/s capacity, hundreds of kilometers of GRP, UPVC & HDPE pipe systems and other irrigation facilities.
- In charge of the land and cane development scheme of the project.
- Prepared the project organization structure within a team of three.

23 **Modern Irrigation Development at Wake Tio**

Year 2007 – 2009 · **Location** Ethiopia · **Client** Wonji/Shoa Sugar Factory

An automated sprinkler irrigation system comprising a riverside intake structure, three pumping/booster stations, a pipe network of about 120 kilometers, and road and drainage networks. Worked as project manager, extending professional services from design review through implementation (construction supervision, land development, sugarcane plantation and operation and maintenance) of the project, and carried out certification of payments and preparation of claims and counter-claims.

24 **Modern Irrigation Development at Dodota North**

Year 2008 – 2011 · **Location** Ethiopia · **Client** Wonji/Shoa Sugar Factory

An automated sprinkler irrigation system comprising an intake structure, three pumping/booster stations, a pipe network of about 400 kilometers & 9 center pivots, and road and drainage networks. Worked as project manager, extending professional services from

design review through implementation (contract administration, construction supervision) of the project. Developed the concept and led implementation of the temporary pumping and piping scheme to irrigate some 200 ha of the Dodota system before completion of the main system.

25 **Wellenchiti Irrigation Project**

Year 2007 – 2011 · **Location** Ethiopia · **Client** Wonji/Shoa Sugar Factory

- Led the counterpart staff to the consultant for the feasibility study, detail design & bankable document preparation of the project for irrigation system development of 6,500 ha cane area.
- Planning works for the implementation of the project.
- Preparation of bids, bid evaluation and contract documents to employ a consultant & a contractor for project implementation, etc.

26 **Design Review Work for the Ziway Phase-II Irrigation Project**

Year 2009 · **Location** Ethiopia · **Client** Water Works Design & Supervision Enterprise

- Design review service as a freelance consultant.
- The project is intended for a 4,200 ha area and comprises a main pumping station, distribution pipe network and hydro-flume design for field application.

27 **Omorate Palm Irrigation Project**

Year 2009 – 2014 · **Location** Ethiopia · **Client** FRI-EL Green Power Ethiopia Farming & Processing Plc

- Consultancy service for the planning of the irrigation project and agricultural activities of FRI-EL Green Power Ethiopia Farming & Processing Plc.
- Prepared the TOR for the feasibility study of the project (30,000 ha).
- Undertook evaluation of the preliminary feasibility study of the project for its agricultural and industrial aspects (sugarcane development on a 30,000 ha irrigated area) as studied by a consultant.
- Design review of a 12 ha drip irrigation system for a palm nursery.
- Design review of a riverside pump station (for a 700 ha area) on the Omo River.
- Various consultancy roles related to the irrigation system for the date palm plantation, including flexi-flume irrigation distribution layouts.

28 **Design & Implementation of the GO4 Irrigation Project**

Year 2006/7 · **Location** Ethiopia · **Client** Finchaa Sugar Factory

A gravity-fed sprinkler system (201 ha) from the existing canal at the West Bank of the Finchaa River. Undertook this project from formulation of the project idea through design, taking off material quantities, preparation of working drawings on AutoCAD format, construction supervision of the civil works and pipeline installation activities, and test & commissioning.

29 Design & Implementation of the PS4-South Irrigation Project

Year 2006/7 · **Location** Ethiopia · **Client** Finchaa Sugar Factory

A sprinkler irrigation sub-system, a pumped network fed by the existing pump station PS4 at the West Bank of the Finchaa River. This was also executed from inception to commissioning.

30 Feasibility Study of the Neshe Cane Area (5,000 ha)

Year 2006/7 · **Location** Ethiopia · **Client** Finchaa Sugar Factory

Worked as a counterpart to the French/British consultants (BRLi – Booker Tate). A group of three carried out the evaluation of feasibility and design documents at every stage of the study and design, while taking part in field and laboratory observation studies.

31 Design & Implementation of the 700 ha Part of the East Bank Irrigation Project

Year 2006/7 · **Location** Ethiopia · **Client** Finchaa Sugar Factory

A partial development scheme of the East Bank major project, establishing temporary pumping stations no. 2 & 3 on the Finchaa River. 400 hectares were implemented in 2006/07 and the balance 300 hectares the following season. Participated in the design of this project (in a committee of three) and led the construction and installation works.

32 Design of the East Bank Major Irrigation Project (7,000 ha)

Year 2005 – 2007 · **Location** Ethiopia · **Client** Finchaa Sugar Factory

The major Phase II development scheme of Finchaa Sugar Factory. Participated (in a group of three) in the preparation of sprinkler irrigation field layouts, pipeline & road layouts and designs, and preparation of drawings; also worked (in a group of two) on the design of part of the main canal and structures of this project.

33 Feasibility Study of the East Bank Irrigation Project (7,000 ha)

Year 2003/4 · **Location** Ethiopia · **Client** Finchaa Sugar Factory

Worked as counterpart staff to a French consultant, SOFRECO, during the feasibility study of the irrigation/sugarcane agriculture project.

34 Design & Implementation of the PS1-West Irrigation Project

Year 2005/2006 · **Location** Ethiopia · **Client** Finchaa Sugar Factory

This irrigation system is supplied by pumping from the existing PS1 at the West Bank. Major works included expansion of the pumping station structure and installation of additional pumps, pipe system and sprinkler networks.

35 Design & Implementation of the East Bank (300 ha) Irrigation Project

Year 2005/6 · **Location** Ethiopia · **Client** Finchaa Sugar Factory

A partial development scheme of the East Bank major project, establishing temporary pumping station no. 1 on the bank of the Finchaa River. Worked in a group of two from inception to commissioning of the sprinkler irrigation system.

36 **Study, Design & Implementation of the Korke (530 ha) Irrigation Project**

Year 2003/4/5 · **Location** Ethiopia · **Client** Finchaa Sugar Factory

This sprinkler irrigation system is supplied by two new pumping stations at the existing canal of the West Bank. It comprises a buried pipe network of about 24 km and 8 pumps at two pumping stations, all installed by local experts. Main activities related to this project:

- Identification of the area to be developed by studying different alternatives based on topographic and soil maps and physical observation.
- Prepared the irrigation field and pipeline layouts, production of working drawings.
- Involved in procurement processes (preparation of bill of quantities, bid documents, technical evaluation of bids, etc.) of materials & equipment for the project.
- Construction supervision, test & commissioning of the irrigation system.

37 **Design & Implementation of the PS5-North Irrigation Project**

Year 2004/5 · **Location** Ethiopia · **Client** Finchaa Sugar Factory

An expansion of the existing PS5 irrigation network supplied by one additional pump at PS5. Re-designed this system to optimize the irrigation material to command more sugarcane area than originally planned by the consultant Booker Tate — as a result it was possible to develop 162 ha of sugarcane against the initial plan of 95 ha. Prepared the working drawings and coordinated the construction/installation work through to commissioning.

38 **Small-Scale Furrow Irrigation System Development**

Year 2002/3 · **Location** Ethiopia · **Client** Finchaa Sugar Factory

The only furrow-irrigated field in the Finchaa Sugar Estate, covering 32 ha. Involved in the design of the head works, transition & the tertiary canal; led the team for construction of the canal and regulatory works as well as land leveling & land development activities.

39 **Irrigation Infrastructure Development Project (6,700 ha)**

Year 1993 – 1995; 1997 – 1998 · **Location** Ethiopia · **Client** Finchaa Sugar Factory

Attached to the British consultant (Booker Tate Ltd.) and worked under their command as an irrigation civil works inspector on the construction supervision of the canal & structures. A number of international contracts were administered for various project components. Beyond construction supervision, several design review works were carried out to suitably adapt the design to prevailing site conditions. Major components of the project:

- 42 km long main canal with 7 m³/s capacity and telescopic design.
- 72 cross-drainage culverts and aqueducts, 3 gravity off-takes, 6 canal off-takes, 5 pump stations.

- 23 inverted siphons of diameter ranging between 1,200 and 1,800 mm.
- Over 355 km of buried irrigation pipeline / sprinkler network, etc.
- 33 kV and 15 kV power supply networks.
- Road networks, etc.

CERTIFICATION

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience, and I am available to undertake the assignment in case of an award. I understand that any misstatement or misrepresentation described herein may lead to my disqualification.

Belachew Mehari – 08/12/2025

Name of Expert / Signature – Date (day/month/year)