

Dr. Eng. Mitiku Bedru Gochefo

Hydraulic Engineer | Irrigation Specialist | Water Resources Leader & Senior Government Adviser



Dr. Eng. Mitiku Bedru Gochefo is a hydraulic and irrigation engineer, water-resources professional, institutional leader and senior government adviser whose career has evolved from practical irrigation design and field engineering into university teaching, engineering consultancy management, water-sector leadership, international development cooperation and high-level public-policy engagement. Over more than three decades, his professional life has remained closely connected with irrigation, water resources, infrastructure development, integrated water-resources management, Water, Sanitation and Hygiene (WASH), agricultural development, institutional capacity building and public-sector leadership.

His professional journey began at the **Arba Minch Water Technology Institute (AWTI)**, where he studied Irrigation Engineering and graduated with a Bachelor of Science degree in 1995. During this formative stage of his engineering education, he worked together with **Mesfin Hagos, Seid Shimelis and Tamir Mitiku** on the **HARE Irrigation Project Design Report**. The project became one of the earliest major technical works of his career and provided an important foundation for the professional direction that would follow. What began as a university irrigation-design project would eventually become the starting point of a career devoted extensively to water, irrigation, infrastructure and sustainable development.

Immediately after graduation, Dr. Mitiku entered professional practice as a design engineer involved in the study and design of small-scale and micro earth dams and irrigation infrastructure with the Commission for Sustainable Agriculture and Environmental Rehabilitation in Amhara Region (CO-SAERAR). In 1995/1996, he took part in the site identification, reconnaissance and

feasibility studies of the Zana 1, Zana 2 and Zana 3 irrigation projects, a series of small-scale irrigation (SSI) schemes along the Zana River in South Gondar Zone.

He subsequently joined the Commission for Sustainable Agriculture and Environmental Rehabilitation for the Southern Administrative Region, where his responsibilities expanded substantially. As a design engineer and later as a multidisciplinary study-team leader, he became involved in irrigation-potential assessments, reconnaissance investigations, pre-feasibility and feasibility studies, detailed design of small-scale irrigation schemes, rural water-supply and sanitation assessments, food-security programmes and broader infrastructure-development activities.

Among the assignments of this early professional period were the rehabilitation and upgrading studies for the Wamole, Gelana and Gidabo small-scale irrigation (SSI) schemes in Sidama Region and the Ebbala SSI scheme in Kembata Zone in Central Ethiopia Region in 1999/2000. From 1997 to 2001, his work also included site identification, reconnaissance and feasibility studies for the Erbore Pumped Irrigation and Alduba Small-Scale Earth-Dam Irrigation projects for pastoral communities in South Omo Zone; the Bisare and Men'essa Diversion Irrigation Projects in Wolita Zone; the Were and Zenti Irrigation Projects in Gofa Zone; and the Goymo Irrigation Project in Gamo Zone. He also undertook detailed design of the Erbore pumped-irrigation infrastructure, Zenti irrigation infrastructure and Bisare irrigation infrastructure. In 2000, as team leader, he carried out studies of small bridges on the Zoa', Bachire, Shepa and Dalta Rivers and produced complete design reports for the bridges, which were subsequently implemented in Dawro Zone in Southwestern Ethiopia Region, improving rural connectivity and, above all, community safety in locations where loss of life during peak river flows had previously been a recurring tragedy.

This period established a strong practical engineering foundation. It also brought him directly into the realities of rural development, food security and community infrastructure. Those experiences gradually broadened his understanding of irrigation beyond the hydraulic design of canals, diversion

structures and water-control works. Irrigation development, in practice, also required capable institutions, appropriate management arrangements, community participation and long-term sustainability.

His academic and technical development advanced significantly when he undertook postgraduate studies at the International Institute for Infrastructural, Hydraulic and Environmental Engineering (IHE), Delft, the Netherlands, completing an M.Sc. in Hydraulic Engineering with specialization in Land and Water Development in 2003. His Master's research examined Design, Operation and Maintenance Measures for Sustainable Small-Scale Irrigation Schemes in South Ethiopia, reflecting an emerging professional interest not merely in how irrigation systems are designed, but also in how they can remain functional and sustainable after construction.

While studying at IHE Delft, he also participated in the preparation of a pre-feasibility study for the Integrated Bura Land and Water Development Project in Kenya, involving approximately 14,500 hectares of irrigated agriculture. The assignment brought him into collaboration with international professionals under the guidance of experts from the Netherlands and IHE Delft and further strengthened his exposure to large-scale land and water development planning.

Following his return to Ethiopia, Dr. Mitiku entered university teaching and academic leadership at the institution now known as Hawassa University. He taught civil and hydraulic engineering subjects and later served as Head of the Civil Engineering Department. At a time when the department itself was still developing, he contributed to strengthening its academic and physical capacity and to preparing a new generation of engineering professionals.

This period added another important dimension to his career. His role was no longer limited to practicing engineering; it also involved transferring engineering knowledge, mentoring future professionals and participating in the development of an academic institution.

His career subsequently moved increasingly into senior public-sector leadership. From 2006 to 2008, he served as Vice Bureau Head responsible for

Irrigation Development within the Southern Nations, Nationalities and Peoples Region (SNNPR) Water Resources Development Bureau. From 2008 to 2010, he served as Head of the Bureau of Water Resources Development.

In these positions, his responsibilities extended well beyond irrigation alone. His portfolio encompassed irrigation development, water supply and sanitation, integrated water-resources management, basin development, mines, rural energy, off-grid electrification and related development programmes. This marked a major transition in his professional life—from designing individual projects to providing leadership for water, infrastructure, mines, off-grid rural electrification and natural-resource programs at regional scale.

Dr. Mitiku later became General Manager of the South Design and Construction Supervision Enterprise, where he assumed responsibility for the management of engineering consultancy, study, design, construction supervision and multidisciplinary infrastructure-development activities. In this role he was involved not only with engineering content but also with the management of professional teams, consultancy assignments and major development proposals.

During this period, among other responsibilities, he contributed to the preparation and finalization of proposals associated with the **Kuraz Sugar Development Project**, one of Ethiopia's major agro-industrial development programmes, with a planned net irrigable area exceeding 150,000 hectares. His involvement in work of this scale represented a substantial progression from the small-scale irrigation and rural infrastructure assignments with which his career had begun.

Selected Engineering Projects and Design Assignments

For explicit illustration of the engineering assignments that shaped his professional development, selected project experience includes:

- **HARE Irrigation Project Design Report, Ethiopia (1995)** — member of the original four-person AWTI student team on one of the earliest major irrigation-design works of his career.

- **Zana 1, Zana 2 and Zana 3 Irrigation Projects, South Gondar Zone (1995/1996)** — participated in site identification, reconnaissance and feasibility studies for a series of small-scale irrigation schemes along the Zana River.
- **Wamole, Gelana, Gidabo and Ebbala SSI Schemes (1999/2000)** — worked on rehabilitation and upgrading studies for small-scale irrigation schemes in Sidama Region and Kembata Zone.
- **Erbore Pumped Irrigation and Alduba Small-Scale Earth-Dam Irrigation Projects, South Omo Zone** — undertook site identification, reconnaissance and feasibility studies for irrigation development serving pastoral communities; his work also included detailed design of Erbore pumped-irrigation infrastructure.
- **Bisare, Men'essa, Were, Zenti and Goymo Irrigation Projects, Southern Ethiopia** — worked on reconnaissance, feasibility and irrigation-development studies in Wolita, Gofa and Gamo zones, including detailed design of Bisare and Zenti irrigation infrastructure.
- **Zoa', Bachire, Shepa and Dalta River Bridge Projects, Dawro Zone (2000)** — served as team leader for the bridge studies and prepared complete design reports for works that were subsequently implemented, improving rural connectivity and safety.
- **Integrated Bura Land and Water Development Project, Kenya** — participated in the pre-feasibility study for a development involving approximately 14,500 hectares of irrigated agriculture while studying at IHE Delft.
- **Kuraz Sugar Development Project, Ethiopia** — contributed to the preparation and finalization of proposals associated with a major agro-industrial development programme with a planned net irrigable area exceeding 150,000 hectares.

Together, these assignments show the progression of his engineering practice from small-scale irrigation, earth dams, bridge design and local rural infrastructure to large-scale land-and-water development and major agro-industrial proposals.

He subsequently served as **Senior Infrastructure Adviser to the President of the SNNP Regional Government**, providing senior technical advice

concerning infrastructure study, design and construction-supervision activities and contributing to the consideration of major regional infrastructure development programmes.

His professional experience broadened further through **international development cooperation** when he served as a **WASH Adviser with SNV Ethiopia** under the **Netherlands-UNICEF WASH Initiative**. In this role, he coordinated stakeholders from regional to community level in implementing WASH program activities and supported capacity development at district, school and community levels.

His work contributed to the improvement of key hygiene behaviours and to community-led total sanitation initiatives aimed at achieving open-defecation-free (ODF) communities. The experience strengthened the social and institutional dimensions of a career that had initially been rooted primarily in hydraulic and irrigation engineering, reinforcing the importance of communities, institutions and behavioural change in the success of water-development interventions.

One of the most significant chapters of Dr. Mitiku's irrigation career followed between 2015 and 2020, when he served as National Regional Team Leader for the Small Scale and Micro Irrigation Support Project (SMIS), working with **Agriteam Canada Consulting Ltd.** The program, supported by the Governments of Canada and the Netherlands, focused on strengthening institutional and professional capacity for the development and management of small-scale irrigation (SSI) and household micro-irrigation (HHMI).

The program worked with regional and line implementing public institutions, development programmes, Agricultural Technical and Vocational Education and Training (ATVET) colleges, extension systems and smallholder farmers. Its activities addressed climate-resilient irrigated agriculture, agricultural extension, crop and agricultural-water management, high-value crop production, water productivity, market linkages, post-harvest management, soil-fertility management and irrigation training.

The SMIS programme also contributed to the revision and development of national guidelines covering project initiation, planning and organization; irrigation site identification; engineering and socioeconomic studies; design; construction; contract administration; scheme operation and management; agricultural-water management; and monitoring and evaluation of scheme performance.

An especially important component of this work was the development of the required curricula and demonstration facilities for practical training of Irrigation Development Agents (DAs) within the SSI and HHMI program framework at ATVET colleges. This support contributed to establishing practical training opportunities for qualified middle-level professionals in agricultural-water management—helping to strengthen not only irrigation infrastructure, but also the human capacity required to operate and sustain it.

These years reinforced a professional lesson that had gradually emerged throughout his career: the sustainability of irrigation systems depends not only on sound hydraulic design, but also on leadership, institutions, governance and the capacity of communities and organizations to manage infrastructure effectively.

That realization eventually became an important subject of his academic research. Dr. Mitiku pursued doctoral studies in Leadership, focusing his research on leadership styles associated with the sustainability and profitability of community-managed small-scale irrigation schemes. His doctoral work brought together two strands of experience that had increasingly converged throughout his career: engineering and institutional leadership.

He earned his PhD in 2023 from Vision International University, USA, through its affiliation arrangement involving the Grace Graduate School of Grace International Leadership & Theological University (GILTU) in Addis Ababa, Ethiopia.

In 2021, Dr. Mitiku served as Adviser to the SNNPR Government on irrigation and watershed-development affairs, while concurrently serving as General

Manager of the Southwest Ethiopia Peoples Referendum Project Office. In this leadership capacity, he contributed to the preparation of technical and legal documents and to public-relations processes associated with the constitutional referendum that led to the establishment of the Southwest Ethiopia Peoples Regional State.

This responsibility extended far beyond conventional engineering practice and reflected the degree to which his career had developed into broader institutional, governmental and public leadership.

From late 2021 until 2025, he served as Adviser to the President of the Southwest Ethiopia Peoples Regional Government on Economic and Infrastructure Affairs. His responsibilities covered policy, strategy and programme implementation in agriculture, agricultural research, finance, planning and economic development, trade, investment, revenue, industry and enterprise development, environmental protection and climate change.

His infrastructure portfolio included irrigation development, water supply and sanitation, energy, roads, urban development, housing, basin development and pastoral-development programs. The breadth of this portfolio reflected a professional transition from specialist engineering assignments to integrated regional development and public-policy leadership.

During this period, Dr. Mitiku also contributed to the development of a multiple-capital, or multiple-government-seat approach for the newly established region. The concept was intended to promote more balanced territorial, economic and infrastructure development within the regional state. The approach was subsequently approved and implemented by the regional government, with four capital cities designated as regional government seats.

In June 2025, Dr. Mitiku reached another major stage of his professional career when he moved to the Ministry of Water and Energy of the Federal Democratic Republic of Ethiopia as Adviser to the Minister on Foreign and International Relations concerning water and energy. In this national-level role, his

responsibilities concern international and regional cooperation in the water and energy sectors.

In this national-level position, he provides high-level advisory and facilitative support to the offices of the Minister and State Ministers, contributes to sector-program development, supports coordination among federal institutions, regional agencies and development partners, and helps strengthen Ethiopia's international and regional cooperation in the water and energy sectors.

His assignments also extend to serving as a focal person for regional programmes. He serves as a representative of the Ethiopian Project Advisory Committee (PAC) of the AUDA-NEPAD MPA WASH Programme for Eastern and Southern Africa, providing strategic support and oversight and helping align regional programme activities with national water- and sanitation-sector priorities.

He additionally serves as a focal person at the Ministry for the African Union Commission Climate-Resilient Water Investment Programme and its associated project-pipeline development, positioning his current work at the intersection of national water policy, African regional cooperation, climate resilience and international water investment.

Throughout this professional journey, Dr. Mitiku has combined the perspectives of an engineer, university teacher, engineering manager, program leader, institutional developer and public-policy adviser. His professional development has included training and international exposure in integrated water management, river-basin management, ecosystem considerations in Integrated Water Resources Management (IWRM), procurement and contract management, geographic information systems (GIS), AutoCAD and results-based project-cycle management.

His career has therefore progressively expanded beyond the conventional boundaries of hydraulic design, integrating engineering with agricultural development, institutional capacity, governance, public administration, climate resilience and regional cooperation.

The HARE Irrigation Project — Where the Journey Began

Within this broad professional history, the HARE Irrigation Project occupies a special place.

Prepared in 1995, when Dr. Mitiku was a young Irrigation Engineering student at Arba Minch Water Technology Institute, it represents one of the earliest expressions of the technical discipline and professional commitment that would remain central throughout his career.

From studying and designing small irrigation systems and earth dams, he progressed to leading regional irrigation-development programs.

From learning the principles of hydraulic structures, he advanced to directing water-resources institutions and engineering consultancy organizations.

From analysing irrigation schemes primarily as engineering systems, he later examined the leadership, governance and institutional arrangements required to sustain them.

And from participating in a student irrigation-design project in southern Ethiopia, his responsibilities eventually expanded to national water and energy policy, international development cooperation and continental African water initiatives.

Revisiting the HARE Irrigation Project more than three decades later therefore brings together two very different stages of the same professional life.

On one side stands the young irrigation engineer participating with his classmates in the technical design of an irrigation diversion scheme in 1995.

On the other stands the experienced hydraulic engineer, institutional leader, scholar and senior government adviser whose responsibilities now encompass water governance, climate-resilient investment, regional development and international cooperation.

The distance between those two moments represents far more than professional advancement. It tells the story of a career in which the meaning of water engineering has continually widened—from the design of canals, hydraulic structures and irrigation systems to the institutions, leadership, people and partnerships required to make water development sustainable.