Water Resource Management Roadmap

Needs for Government Facilities and Laboratories

- ☐ Mountain enaineering center towards sustainable infrastructure and upland water security program (BOONDOCK)
- □Smart water infrastructure and management R&D Center (SWIM)
- □Community-based water harvesting technologies program
- □Advancement of O&M for water supply facilities

Needs for Human Resource:

- ☐ Training on modelling software
- ☐ Training on sensor/system development/operation and
- maintenance

R&D Program/Project Needs

- ■Water for tourism
- ■Smart water monitoring and harvesting technologies
- ■Water security
- □Integrated water resource management
- □Comprehensive water resource management
- □Dam/watershed/reservoir S&T management strategy

Establishment of

Smart water

infrastructure

management

R&D Center

UK-PH Water

(MIW2)

security

program

2021

· Development of drought mitigation technologies and systems Community-

Comprehensive

water resource

management

Dam/watershe

d/reservoir S&T

management

2023

strategy

emerging contaminant based water harvestina

Science

Assessment

Design and

of Water

Resources

Innovative

Projects and

Interventions

dam/watersh

ed/reservoir

Science-

River and

Assessment

Management

and

management

based Upland

Development

based

100M

technologies

Urban storm

Automated

water

dams

Decision

water storage

measurement

and control

support tool for

systems for

2024

water resource Water assessment desalination Advancement systems O&M for water Groundwater supply facilities investigation for

100M



250M

comprehensive

Nationwide

harvesting system comprehensive assessment tools and technologies Water supply and monitoring and

modelling systems

and technologies

savina/recylina technologies and system Identified sources of emerging contaminants Established assessment methodology for emerging contaminants in

groundwater

supply facilities Flood protection Artificial rainfall and defense Innovative water system technologies Sensor developed for emerging Mitigation

2026

250M

comprehensive

water resource

Nationwide

assessment

contaminants monitoring technologies for emerging contaminants in groundwater

Modular water

desalination

Smart water

system

Saltwate intrusion intervention Recharge

wells

canals)

barriers

systems for

resource

monitoring

protection

technologie

defense

system

Smart

water

Flood

and

2027

250M

comprehensiv

Nationwide

e water

resource

assessment

Standard (recharge Physical subsurface resource

200M Nationwide

comprehensiv

e water

resource

assessment

Vision **S&T** based management for sustainable water

Ongoing

 Green Infrastructures System integration of developed technologies for smart cities designs for effective water

management

2028 resources

Done

(Text Font):

- ☐ Training on data analytics

Decision support tool for water management

100M

Center Towards

Upland Water

(BOONDOCK)

Water for Tourism

Integrated water

management

(river basin

approach)

Smart water

meter

Infrastructure and

Establishment of

Mountain

Engineering

Sustainable

Security

resource

- Groundwater management plan and monitoring system
- · Automated realtime monitoring system for dams and reservoir
- Forecastina models for water supply using artificial intelligence

· Urban storm water storage

2022

 Automated water measurement and control systems for dams

Decision support tool for water management

- Integrated water planning auidelines for tourist islands and river basin
- Advanced modelling software of saltwater intrusion
- · Smart flood monitoring remediation and mitigation

management Spring Water

 Integrated water planning guidelines for tourist islands and river basin

- Advanced modelling software of saltwater intrusion
- Smart flood monitoring remediation and mitigation

Thematic Areas

- Decision support tools
- Localized sensor/monitoring system and technologies
- Infrastructure intervention

NAST Foresight

- Small-scale water cisterns to collect rainwater households
- Water reservoirs through groundwater aquifers with infiltration galleries at strateaic areas
- · Infiltration galleries build around houses to deep-percolate into the ground subsurface, minimizing flood risk in case storage tanks for rainfall are full

Difference

Cost-effective and localized tools, methodologies, and technologies