

Setting Site Water Targets Informed by Catchment Context

CASE STUDY: Noyyal-Bhavani River Basin, South India

July 2020



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Case Study: Noyyal-Bhavani River Basin, South India

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Table of Contents

Background: Setting Site Water Targets Informed by Catchment Context	4
Case Study: Noyyal-Bhavani River Basin	6
The Pilot	6
The Noyyal-Bhavani River Basin	7
Elements for Setting Site Water Targets.	8
Element 1: Water targets should respond to priority water challenges within the catchment	8
Element 2: The ambition of water targets should be informed by site's contribution to water challenges and desired conditions.	11
Element 3: Water targets should reduce water risk, capitalize on opportunities and contribute to public policy priorities	14
Conclusions and Key Learnings	18

Tables

Table 1. Three elements for setting site water targets that reflect the catchment context	5
Table 2. Sustainable Development Goals and associated water challenges that inform site water targets	10
Table 3. Noyyal-Bhavani water challenges in order of initial priority	11
Table 4. Noyyal-Bhavani river basin diagnostic	13
Table 5. Database of potential facility water targets and supplementary information	16

Figures

Figure 1. Noyyal, Bhavani and Thirumanimuthar sub-basins in Tamil Nadu, India	8
Figure 2. Combining operational and catchment risk helps identify priority water challenges	9
Figure 3. Static image capture of online dynamic dashboard to visualize basin risk and facility location	15

Background: Setting Site Water Targets Informed by Catchment Context

The world's water resources are under increasing pressure from rising water consumption, pollution, and climate variability. Like any other water user, a company needs a reliable supply of adequate quality water. It is important for companies to understand the factors affecting water resources in the regions in which they operate as they take steps to address risks.

Water issues are primarily local. Each catchment has unique hydrologic, environmental, social, cultural, regulatory and economic characteristics. The water risks to a company's site manifest at the local level and may be a function of a variety of water challenges: access to water and sanitation, water quality, water quantity, water governance, freshwater ecosystems and extreme water-related events (i.e. floods and droughts).

Given that each catchment has a unique set of water resource challenges, setting meaningful targets requires companies to take local context into consideration. Developing site water targets that account for catchment conditions—the context—can help companies reduce their water risk and improve water security by aligning corporate water strategies with public sector policies and goals. Guidance for developing such targets has been developed by a consortium of organizations: The Nature Conservancy, World Resources Institute, World Wide Fund for Nature (WWF), CDP, the United Nations Environment Programme and the Pacific Institute (in its role as co-secretariat of the CEO Water Mandate).

The guidance includes three main elements, outlined below in Table 1. It should be noted that this is an iterative process; challenges and targets should be reassessed about every five years. Also, the approach may differ slightly for each company depending on their water stewardship maturity, capacity, and the role of water across their value chain. Further, to ensure global alignment, this process has been informed by, and aligned with, the United Nations Sustainable Development Goals (SDGs), and broadly aligned with the main stewardship outcomes identified by the Alliance for Water Stewardship (AWS).¹

¹ Kammeyer, Cora, Sonali Abraham, and Tien Shiao. 2019. Setting Site Water Targets Informed by Catchment Context, CASE STUDY: Santa Ana River Watershed, California. UN Global Compact CEO Water Mandate and Pacific Institute. <https://ceowatermandate.org/watertargets/wp-content/uploads/sites/30/2019/08/CEOWaterMandateTargetsCaseStudy.pdf>

TABLE 1. Three elements for setting site water targets that reflect the catchment context

Elements for effective water target setting	1 Water targets should respond to priority water challenges within the catchment	2 The ambition of water targets should be informed by site's contribution to water challenges and desired conditions	3 Water targets should capitalize on opportunities and contribute to public policy priorities
Recommended Actions	1.1. Understand operational risks, dependencies, and impacts	2.1. Determine desired condition for priority water challenges	3.1. Identify existing water stewardship initiatives, collective action efforts, and public policy initiatives in the catchment
	1.2. Determine spatial scope	2.2. Assess gap between current and desired conditions	3.2. Set targets that, when possible, contribute to existing efforts to meet desired conditions
	1.3. Prioritize water challenges within the catchment	2.3. Determine company contribution towards desired conditions	3.3. Determine implementation strategies and measure progress towards meeting targets
Desired Outcome	Targets address contextual water challenges and business risks	Target ambition is proportional to the magnitude of the shared water challenge	Targets deliver tangible business value and reduce cost of action to meet the desired conditions

Source: UN Global Compact CEO Water Mandate, Pacific Institute, CDP, The Nature Conservancy, World Resources Institute, WWF, UNEP-DHI Partnership Centre for Water and Environment. 2019.

Case Study: Noyyal-Bhavani River Basin

THE PILOT

In 2018 and 2019, the Pacific Institute, in its role as co-secretariat for the CEO Water Mandate, coordinated a clustered pilot in the Noyyal-Bhavani River Basin in South India to help companies set site water targets informed by catchment context.² This was done in coordination with the apparel companies Levi Strauss & Co., Gap Inc., and PVH Corp., which have facilities and operations in the watershed. The project was done in collaboration with the Ashoka Trust for Research in Ecology and the Environment (ATREE), an independent environmental research institution and think tank based in South India; the Sustainable Apparel Coalition; and Anthesis Group, an environmental consultancy. This project also benefited from the insights and experiences shared by WWF India, UN Global Compact Network India, and the Institute for Sustainable Communities.

This pilot shares steps taken, and lessons learned in setting site water targets for apparel facilities in the Noyyal-Bhavani River Basin. It is intended to help others in similar positions set water targets that account for basin context. This pilot was uniquely focused on companies within the apparel sector. This definite scope allowed the project team to tailor the basin assessment, focusing on how the textile industry is affected by and depends on basin resources. Further, the project team was able to use materials specific to the apparel sector while compiling data sources and informing potential targets. Recognizing that water is and has always been an intrinsic part of the textile manufacturing process, the participating companies have already done a significant amount of work onsite to address water-related issues. They were particularly interested in working collectively on water stewardship beyond their facility fencelines to foster impactful work addressing basin water security. Recognizing this interest and ambition, the focus of this pilot was on facilitating collective action through the water target-setting process. Through collective action, companies can leverage funding and knowledge sharing, gain community buy-in, and scale positive impacts on shared basin water challenges.³ The general site water target-setting guidance uses specific terminology.⁴ For the purposes of this pilot, we deviate from that terminology. The term “facility” is used to denote a “site,” and “basin” is used instead of “catchment.”

2 UN Global Compact CEO Water Mandate, Pacific Institute, CDP, The Nature Conservancy, World Resources Institute, WWF, UNEP-DHI Partnership Centre for Water and Environment. 2019. Setting Site Water Targets Informed by Catchment Context: A Guide for Companies. <https://ceowatermandate.org/site-targets-guide/>.

3 UN Global Compact CEO Water Mandate, Ross Strategic, Pacific Institute, Pegasys, Water Futures Partnership. 2013. Guide to Water-Related Collective Action. <https://ceowatermandate.org/collectiveaction>.

4 UN Global Compact CEO Water Mandate, Pacific Institute, CDP, The Nature Conservancy, World Resources Institute, WWF, UNEP-DHI Partnership Centre for Water and Environment. 2019. Setting Site Water Targets Informed by Catchment Context: A Guide for Companies. <https://ceowatermandate.org/site-targets-guide/>.



THE NOYYAL-BHAVANI RIVER BASIN

The geographic scope of this project, as seen in Figure 1, is the Noyyal and Bhavani sub-basins. ATREE carried out in-depth research to understand water challenges in the river basin. We summarize their findings in parts of this case study.⁵

The Noyyal and the Bhavani are sub-basins of the Cauvery, one of the largest river basins in South India. The sub-basins are primarily located in the state of Tamil Nadu, with small parts in the neighboring states of Karnataka and Kerala. The region has a tropical climate and receives 20–40 inches of annual rainfall from the monsoons.

The Noyyal is a rapidly urbanizing sub-basin spanning an area of 3510 sq. km. The region is a well-known global textile export hub, contributing 90% of the knitwear exports from India. The Noyyal sub-basin represents about 60% of the population of the study area, with the major industrial cities of Coimbatore and Tiruppur supporting populations of approximately 1 million and 500,000, respectively.

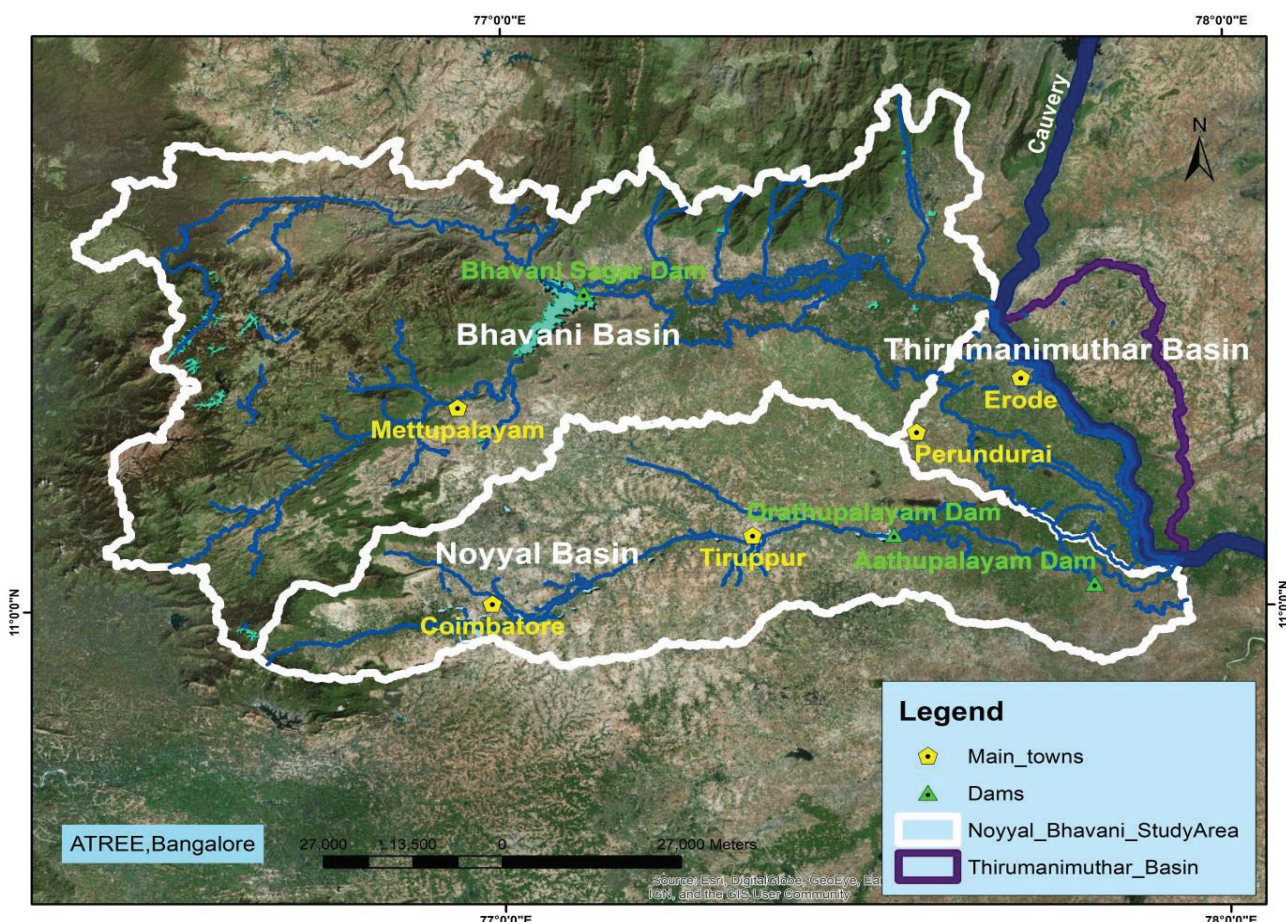
The Bhavani sub-basin, with an area of 6500 sq. km, is primarily agricultural in nature. The upper Bhavani has several hydropower reservoirs, and its rivers are impounded by the Bhavanisagar Dam.

As the Noyyal and the Bhavani are interconnected sub-basins, surface water from the Bhavani is pumped into the Noyyal sub-basin to meet the domestic water needs of the cities of Coimbatore and Tiruppur, industrial water needs of the textile industries and irrigation further downstream.

The spatial scope of the project was determined to be the Noyyal and Bhavani sub-basins and is referred to as the Noyyal-Bhavani River Basin in this study. This scope was determined based on (1) hydrologic watershed boundaries; (2) relevant impacts and dependencies of participating facilities, i.e. areas in the watershed that facilities either impact or depend on; and (3) areas where water stewardship has a strong presence, so as to leverage existing or upcoming opportunities and interest.

5 R. Apoorva, Kulranjan, R., Pranuti, C. L., Vivek, M., and Srinivasan, V. 2019. Contextual Water Targets Pilot Study: Noyyal-Bhavani River Basin. Bengaluru. Ashoka Trust for Research in Ecology and the Environment. https://www.atree.org/sites/default/files/reports/CBWT_Noyyal_Bhavani_final%20report_ATREE.pdf

FIGURE 1. Noyyal, Bhavani and Thirumanimuthar sub-basins in Tamil Nadu, India



Source: Ashoka Trust for Research in Ecology and the Environment. 2019

ELEMENTS FOR SETTING SITE WATER TARGETS

Element 1: Water targets should respond to priority water challenges within the catchment

The first element aims to ensure that water targets will account for basin context. It is focused on understanding the important water challenges in the basin for participating companies.

METHODS

The main steps under this element are to understand operational and catchment risk and prioritize water challenges in the basin. Figure 2 explains this relationship.

Operational risk

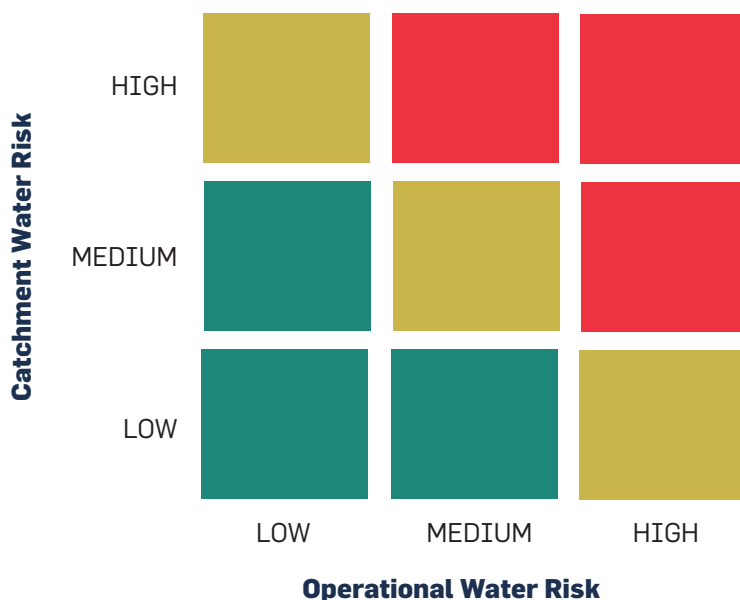
Companies face different water-related operational risks depending on the nature of their activities, such as reliance on water in manufacturing, brand reputation, etc. Operational risk assesses the company's dependence, and the impact of its activities, on water resources. For the apparel sector, operational risk focused on dependence on water supply, impact on water quality through facility discharges, and concerns around water, sanitation and hygiene (WASH).

To better understand the operational risk of participating facilities, the project team gathered information on apparel mills and factories through a secure online data request form and meetings with participating apparel brands. Further information related to facility-specific water management, wastewater management, and energy were obtained through the Sustainable Apparel Coalition’s Higg Facility Environmental Module (FEM) 3.0 questionnaire.⁶

Catchment water risk

Catchment water risk was analyzed around six main water challenges aligned with the Sustainable Development Goal 6: access to safe water, sanitation and hygiene; water quality; water quantity; water governance; important water-related ecosystems; and extreme weather events. Table 2 summarizes these goals and associated challenges. ATREE conducted a river basin assessment of shared water challenges using data from primary and secondary public datasets, scientific literature and key informant interviews.⁷ The project team also held an in-person basin stakeholder convening to bring together facility managers, brand representatives and NGO representatives to present findings and facilitate discussion on how facility managers think about and act on water challenges.

FIGURE 2. Combining operational and catchment risk helps identify priority water challenges



Source: UN Global Compact CEO Water Mandate, Pacific Institute, CDP, The Nature Conservancy, World Resources Institute, WWF, UNEPDHI Partnership Centre for Water and Environment. 2019.

6 HIGG Fem 3.0 questionnaire is a self-assessment tool with practical, qualitative questions to assess the environmental performance of sustainable development: <https://apparelcoalition.org/download-higg-pdf/>.

7 R. Apoorva, Kulranjan, R., Pranuti, C. L., Vivek, M., and Srinivasan, V. 2019. Contextual Water Targets Pilot Study: Noyyal-Bhavani River Basin. Bengaluru. Ashoka Trust for Research in Ecology and the Environment. https://www.atree.org/sites/default/files/reports/CBWT_Noyyal_Bhavani_final%20report_ATREE.pdf

RESULTS

Water challenges in the Noyyal-Bhavani River Basin were identified and prioritized using preliminary research from ATREE's river basin assessment, group discussions and insights from the basin convening. This provided an initial understanding and overview of basin challenges. Table 3 provides a summary of the key issues for each water challenge.

The basin convening was held in Coimbatore and attended by representatives from NGOs, apparel facilities and regional brand representatives. The discussion resulted in verifying alignment of basin challenges with local experience and a better understanding of barriers in addressing these challenges. The discussion also informed the target-setting process by fostering an awareness of the commonly used internal and external solutions. Common internal solutions include education, whereas external solutions are focused on the need for improved data and governance.⁸

Data limitations

There were several concerns around data availability and water management in the basin. There was a lack of local data related to water use and issues with unreliable data. Further, global datasets often did not contain information at the level of granularity needed for this assessment. The lack of a central institution at the sub-basin level for effective water management in the Noyyal and Bhavani sub-basins made data collection and assessment difficult. These issues affected the basin assessment process and led to some challenges being analyzed to a lesser extent than others.

TABLE 2. Sustainable Development Goals and associated water challenges that inform site water targets

Sustainable Development Goal 6: Clean Water and Sanitation	Water Challenge
Water, Sanitation and Hygiene (SDG 6.1 and 6.2)	People and communities lack sufficient access to safe and affordable drinking water, sanitation and hygiene
Water quality (SDG 6.3)	Water presents health threats to humans and/or ecosystems, or is unfit for its intended use due to quality impairments
Water quantity (SDG 6.4)	Demand (human and environmental) for water exceeds the available supply, indicating water resources are out of balance
Water governance (SDG 6.5)	The political, social, economic and administrative systems which affect the use, development and management of water resources are ineffectual, corrupt, underfunded, or otherwise inadequate
Important water-related ecosystems (SDG 6.6)	Water-related areas of environmental, cultural and spiritual significance are degraded and there is a loss of freshwater ecosystems
Extreme weather events (SDG 11.5 and 13.1)	People and communities are at risk of catastrophic impacts due to extreme water-related weather events such as droughts and floods, which are increasing in frequency and intensity due to climate change

Source: Ashoka Trust for Research in Ecology and the Environment. 2019

8 For details on the workshop, meeting notes can be accessed here: <https://bit.ly/2JOrZ33>

TABLE 3. Noyyal-Bhavani water challenges in order of initial priority

	Water Challenge	Key Issues
1	Water, sanitation, and hygiene	Inequity in drinking water access
		Limited sanitation and sewage treatment capacity
2	Water quantity	Groundwater overextraction
		Drought impacts water availability in parts of the region
3	Water quality	Industrial surface water and groundwater pollution
		Potential illegal industrial wastewater discharges
4	Water governance	Fragmented governance at the basin level
		Groundwater management and regulation is weak
		Absence of integrated management and planning that considers surface and groundwater resources together
5	Important water-related ecosystems	Maintenance of adequate environmental flows in rivers
		Wetlands and rivers are threatened by pollution
6	Extreme weather events	Regular occurrence of droughts and floods in parts of the basin adversely impacts domestic water availability and agricultural livelihoods.

Source: Ashoka Trust for Research in Ecology and the Environment. 2019

Element 2: The ambition of water targets should be informed by site’s contribution to water challenges and desired conditions

This element aims to align the scope of the target with the magnitude of the water challenge. In order to do this, the project team focused on evaluating the current and desired condition of the basin and assessing the magnitude of the gap between these two states.

METHODS

Using governmental datasets, expert interviews, literature reviews and stakeholder feedback, ATREE worked in collaboration with the project team to develop a catchment diagnostic and stoplight analysis, using metrics that informed the current and desired condition of each of the six water challenges. The desired condition was developed based on public sector goals, international goals like the SDGs, and a research-based understanding of basin needs.

The gap between the current and desired basin condition, visualized through the stoplight analysis, was assessed and water challenges prioritized accordingly. This analysis built on the initial research and information from Element 1 but delved deeper into each challenge to gain a more refined understanding of the basin’s needs.

RESULTS

Based on the gap assessment, the most significant challenges are access to WASH; water quantity; and water quality.⁹ A brief description of each water challenge as it affects the basin, realized through the deep dive conducted in this element, along with the stoplight analysis is below (Table 3). For some challenges, there was not data available to enable a stoplight analysis. However, recognizing the importance of the challenge, the lack of data in itself is a significant finding, so they were included in the stoplight analysis (Table 4) for this pilot.

It should be noted that for this pilot, the project team assessed the baseline and desired conditions for all six water challenges as an exercise in understanding how these diagnostics might look. Other sites using this guidance to set targets would likely only perform the detailed diagnostic for the top two to three priority water challenges identified initially.

I. Water, sanitation and hygiene: Access to a reliable supply of water is challenged by seasonal variations and drinking water quality may be compromised by industrial pollution in some areas. Full chain sanitation systems and services are inadequate; there is difficulty in assessing household sanitation due to ongoing improvement actions and a lack of updated, current data.

II. Water quality: There is widespread pollution of surface water bodies (rivers and wetlands) and groundwater due to discharge of untreated sewage, industrial effluents and agrochemical run-off. The concentrations of most environmental indicators including heavy metals—lead, cadmium and nickel— exceed drinking water standards in the Noyyal river.

III. Water quantity: The Noyyal-Bhavani river basin experiences high water stress due to the gap between water demand and limited water availability within the basin exacerbated by unsustainable groundwater extraction. Further, large quantities of surface water resources are not useable or have limited usability due to pollution.

IV. Water governance: The river basin lacks planning and management, and governance of water resources is fragmented. Groundwater regulation and management is weak, and there is a lack of regulation of surface and groundwater pollution.

V. Important water-related ecosystems: It is difficult to maintain adequate environmental flows in the Bhavani River due to hydropower diversions and water allocations to different sectors. Wetlands and rivers in the basin are threatened by pollution.

VI. Extreme weather events: Regular droughts in parts of the basin adversely impacts domestic water availability and agricultural livelihoods.

⁹ The detailed basin diagnostic and associated metrics can be accessed here: <https://bit.ly/2yP3rEQ>

TABLE 4. Noyyal-Bhavani river basin diagnostic

- RED = POOR condition
- ORANGE = MEDIUM condition
- YELLOW = DECENT condition
- GREEN = GOOD condition
- GRAY = not assessed (no data available)

Water Challenge	Issue/Indicator	Metric	Basin Status
Water quantity	Water stress	Measures for water use efficiency in agriculture	●
		Measures for water use efficiency in the industrial sector	●
	Sustainability of water resources	Stage of groundwater development	●
Water quality	Water quality	Water quality indicators for the Noyyal River	●
		Water quality indicators for the Bhavani River	●
		Water quality indicators for groundwater	●
		Water quality indicators for wetlands	●
		Management of fecal sludge	●
		Management of sewage	●
Important water-related ecosystems	Ecosystem health	Change in forest cover	●
		Presence of biodiversity	●
		Seasonal river flows	●
Extreme weather events	Hydrologic extremes	Frequency of droughts over a ten-year period	●
Water, sanitation and hygiene	Drinking water	Access	●
		Potability of supplies for urban households	●
		Potability of supplies for rural households	●
		Affordability	●
	Sanitation	Access to toilets	●
		Safety: mode of sewage/ sludge management	●
		Affordability	●
		Acceptability/use	●
Water governance	Integrated planning and management	Presence of state and basin-level groundwater regulations	●
		Participation of local communities in water management	●
		Participation in irrigation water management	●
		Presence of river basin management plan	●
		Multi-stakeholder river basin management	●
		Comprehensive water accounting	●
		Corporate water reporting	●

Data limitations

In areas where the public sector does not have a clearly defined aim for the basin, it can be difficult to generate a gap assessment without introducing subjectivity. In this pilot, due to limited data availability, the project team used scientific literature, where necessary and available, to develop a desired condition, and excluded certain metrics where appropriate due to the lack of a defined desired condition. However, the lack of data in itself is an important finding and there is a need to highlight data gaps so that funds and projects can be directed where needed. Therefore, some important metrics were included to address this. For example, we included an ecosystem metric around the change in forest cover and a WASH metric related to affordability of drinking water.

Water governance is an overarching issue that affects all the other challenges. Therefore, while the stoplight analysis also shows a high prioritization of water governance, water quantity, water quality and WASH were selected because they are more highly prioritized by the apparel brands and facilities due to their direct dependencies and impacts.

Element 3: Water targets should reduce water risk, capitalize on opportunities and contribute to public policy priorities

This third and final element is centered around setting SMART (specific, measurable, achievable, relevant and timebound) targets for how each facility will contribute to meeting the desired condition in the basin. These are targets that are informed by local context, refined based on facility ambition, and, where appropriate, build on existing initiatives in the region. They are also intended to maintain accountability and encourage other users to set similar targets. This pilot focuses on achieving targets through collective action.

METHODS

The direction and ambition of targets can be informed by assessing (1) The gap between the current and desired condition for priority water challenges; (2) the facility's impact on those challenges; (3) the company's capacity and ambition to help close the gap between the current and desired conditions; and (4) water stewardship opportunities in the basin.

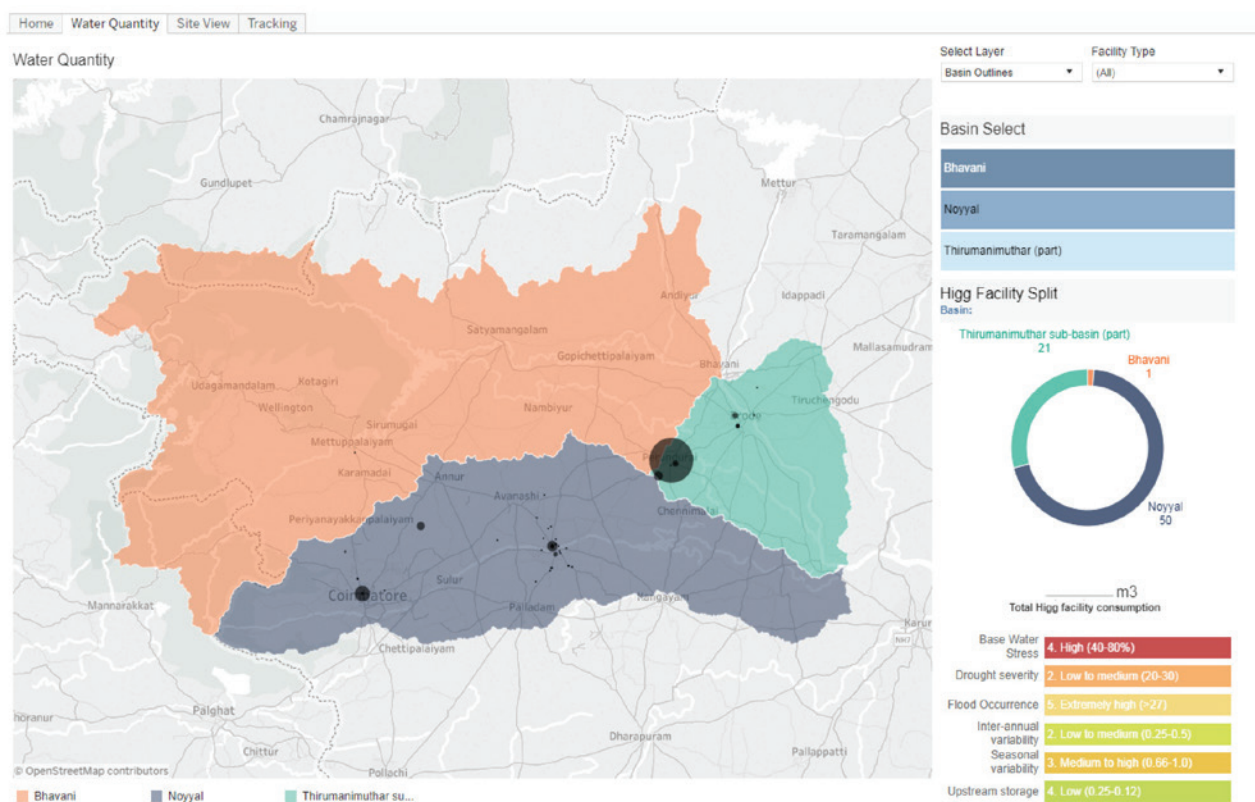
To help guide the target-setting process and better visualize basin risk and the facility location within the basin, Anthesis created a set of online dynamic dashboards to display facility water management data and highlight location-specific shared water risks. This was done by combining ATREE's basin-level assessment, global datasets (Aqueduct and the Flood Risk Analyzer), Higg FEM 3.0 apparel facility data, and information from initial facility data request forms to visualize the local water risks for each facility. A static image showing this dashboard is shown in Figure 3.

The project developed a database of water stewardship projects within the basin and a list of possible targets related to each water challenge, along with metrics to track and measure progress. Discussions with project partners elucidated a clear motivation to pursue collective action and an acknowledgment that most facilities in this pilot have completed onsite water stewardship actions. Facilities in the basin were already implementing onsite actions for water efficiency, including zero liquid discharge practices. Therefore, the database of targets was tailored to focus on collective action rather than internal operations. It suggested collective action strategies for each target, examples of past successful projects, ongoing or upcoming projects, possible funding streams, and as onsite strategies to provide facilities with a variety of action options.

This database of targets was then used to create a catered list of possible targets for each facility, based on the priority water challenge (e.g., the basin diagnostic) and the facility’s ambition (e.g., bilateral conversations and operational information).

To tailor these targets to facility needs, we sent out a survey to gauge whether proposed targets and types of collective action resonated with facilities. The survey was sent to global representatives for each brand, who then sent it to facilities. We received three responses. The list of possible targets was narrowed down based on feedback from this survey.

FIGURE 3. Static image capture of online dynamic dashboard to visualize basin risk and facility location



Source: Anthesis Group. 2019.

RESULTS

A database of targets and project ideas has been compiled. Additionally, this process cultivated a collective understanding and agreement around targets and actions that can address water challenges in the basin that are aligned with facility ambition. Implementation can be achieved either through collective action or onsite strategies. In this pilot, part of the next phase will be to make connections among facilities in the basin with similar ambitions and targets to ultimately implement a collective action project(s).

Survey respondents showed an interest in implementing a collective action project in the basin, specifically in working outside their individual facility and towards a specific collective goal. Two out of three of the

respondents were, in particular, interested in educational and training programmes around water efficiency practices at their facilities and water quality issues and solutions for the community. WASH was identified as an important issue but there was uncertainty around solutions. Two respondents agreed with the results of the basin diagnostic, identifying water quantity, water quality, and WASH as key challenges. However, one respondent differed, stating that their water supply is good quality and plentiful. This exemplifies the importance of location within the basin and differences in water source. It could also be indicative of a dissonance in envisioning challenges that are not directly encountered. It should be noted that since the project team was unable to directly engage with the facilities, this perspective is not comprehensive. Survey responses of “need more information” related to target suggestions were still considered and included in the final list of targets.

A summary of the site targets for the three priority water challenges is shown in Table 5. The table shows water challenges, targets and project options. Project options are focused on collective action, but we chose to include a small number of onsite strategies as well, in response to interest from facilities.¹⁰

TABLE 5. Database of potential facility water targets and supplementary information

Water Challenge	Water Target	Metric	Project Ideas
Water, sanitation and hygiene (WASH)	Provide water, sanitation and hygiene for communities in the watershed	Initiatives launched	Partner with on-the-ground NGOs to develop plans for water, sanitation and treatment systems
		People gaining access to basic or improved drinking water services	
	Increase awareness and education around water, sanitation and hygiene needs and issues	People gaining new or improved access to a sanitation service	Work with the public sector in making WASH-related infrastructure improvements
		People reached	Use the framework by Wash4Work11 to strengthen the business case for investments in water, sanitation and hygiene
			Partner with on-the-ground NGOs to create educational campaigns for employees, their families and neighboring communities

10 The full database of targets, suggested metrics and timeline can be accessed here: <https://bit.ly/37evBX0>

11 The WASH4Work initiative aims to mobilize business to improve access to water, sanitation and hygiene (WASH) in the workplace, in the communities where workers live, and across supply chains. <https://wash4work.org/>.

Water Challenge	Water Target	Metric	Project Ideas
Water quantity	Water use efficiency	Compare against industry average	Perform a water audit to identify efficiency improvements with the most water savings potential and invest in them
			Onsite water reuse and recycling
			Leak detection
	Absolute water use reduction	Compare against past water use	Perform a water audit to identify efficiency improvements with the most water savings potential and invest in them
			Onsite water reuse and recycling
			Leak detection
	Replenish water use	Percentage of water use offset	Invest in groundwater recharge areas in the basin through partnership with local NGOs and the government along with demand-side management
	Improve supply reliability	Water shortage periods	Work with local communities to rejuvenate local fresh/ rainwater ponds
			Work with local NGOs to install rainwater harvesting structures in urban areas for drinking water supply
	Increase awareness and education around water quantity issues	People reached	Provide education and training to improve water efficiency practices
Water quality	Monitor water quality	Presence/absence of pollutants Locations monitored	Engage in/invest in/initiate a citizen science programme for water quality monitoring of nearby streams/rivers/ aquifers
	Reduce key pollutants	Presence/absence of onsite water treatment plant	Implement onsite water treatment plant
			Treat wastewater streams for basic and emerging contaminants
		Concentration (mass of pollutants per unit volume of water)	Support cleanup of contaminated groundwater plume or area
			Support river or forest restoration projects with water quality benefits
	Improve watershed health	Acres restored	Organize staff (and family/friends) volunteer cleanup/ restoration days
		Gallons infiltrated	Partner with on-the-ground NGOs and local government to do river or wetland restoration in the basin
	Increase awareness and education around water quality issues	People reached	Develop river health assessments along different stretches of the rivers in the basin in partnership with local NGOs
			Partner with on-the-ground NGOs to create water educational campaigns for employees, their families and neighboring communities
	All	Create a long-term funding stream for water-related projects	Funds secured annually

Conclusions and Key Learnings

The database of recommended targets and potential projects were shared with participating apparel companies, who in turn shared it with their facilities in the Noyyal-Bhavani basin. This process aimed to help participating companies and facilities understand the local context in which they operate. It led to a deeper and more comprehensive understanding of the basin's water-related needs and challenges, considering environmental, social and governance perspectives. Recommended targets are ultimately informed by local context and facility ambition. Facilities will be able to implement projects and actions based on these recommended targets, supported by data and research. There are also a multitude of resources that can help facilities in the next stage of implementation, including the Water Action Hub's Apparel Portal and suggested resources.¹²

1. **The lack of data can be a finding.** If data is not available for a particular challenge or issue, this does not mean it should be excluded from analysis or consideration. The lack of data can indicate a lack of research and study into that topic, which can inform the basin diagnostic. If an issue has not been studied, we could be unaware of the extent of the problem. An important result can be to direct more research to the issue.
2. **Governance and climate change are overarching issues.** The lack of a cohesive water governance system affects both the extent of all water challenges and the ability to analyze them, for example, through the availability of good data. Similarly, climate change affects all water challenges; rising temperatures and changes in precipitation can affect water availability, water demand and infrastructure.
3. **Organizational structure can influence engagement and success of the pilot.** In this pilot, the project team engaged with brand representatives at the corporate level. Since the facilities are not owned by the brands, but rather work with the brands through contractual agreements, the chain of command between brands and their facilities is not straightforward. Multiple brands can contract out to the same facility and vice versa. Further, in this pilot, facilities were located in South India, a significant distance away from brand headquarters in the United States. It was therefore considerably more difficult to engage directly with the facilities on the ground. While it is possible to contribute to setting site-level targets even if it is led at a different level, it would be beneficial to define these constraints early on in the process.
4. **Partner with on-the-ground organizations.** If you are not based in the region where the sites are located, it is crucial to identify and create effective partnerships with organizations that are. They will provide local expertise in the basin diagnostic and in facilitating engagement with sites.
5. **Understand global strategy versus local strategy.** Facilities experience different issues on the ground (e.g., WASH) and often have slightly different priorities than the brand(s) they serve. Therefore, it is important to take both local conditions and global strategies into account when determining which targets to set and projects to implement to meet those targets.

¹² Apparel Portal, Water Action Hub. UN Global Compact. CEO Water Mandate. https://wateractionhub.org/sectors/3/d/apparel/#sector_overview

The CEO Water Mandate's six core elements:

Direct Operations

Mandate endorsers measure and reduce their water use and wastewater discharge and develop strategies for eliminating their impacts on communities and ecosystems.

Supply Chain and Watershed Management

Mandate endorsers seek avenues through which to encourage improved water management among their suppliers and public water managers alike.

Collective Action

Mandate endorsers look to participate in collective efforts with civil society, intergovernmental organizations, affected communities, and other businesses to advance water sustainability.

Public Policy

Mandate endorsers seek ways to facilitate the development and implementation of sustainable, equitable, and coherent water policy and regulatory frameworks.

Community Engagement

Mandate endorsers seek ways to improve community water efficiency, protect watersheds, and increase access to water services as a way of promoting sustainable water management and reducing risks.

Transparency

Mandate endorsers are committed to transparency and disclosure in order to hold themselves accountable and meet the expectations of their stakeholders.