

Broadening Participation in Integrated Water Management in Arequipa
with the Sustainable Water Management Team (SWM)
Part of the 2020-21 Arequipa Nexus Institute Virtual Workshop Series
February 1 to April 30, 2021

Workshop Objectives: The goal of this workshop is to *help leaders in integrated water management* be more prepared to engage effectively with community members in water resource decisions. We use our expertise from interacting with community groups and agency staff through interviews and focus groups to address the reported needs on integrated water management in Arequipa. We have seen that local water management institutions need support, due to declining public participation in water management and the lack of familiarity with data that drive water management decisions. The purpose of this workshop is to share some techniques and strategies based on our experiences in Peru and Indiana to expand community participation in integrated water management. In addition, our workshop provides participants with the tools to lead community water management.

Learning Objectives: At the end of the workshop **Broadening Participation in Integrated Water Management in Arequipa**, participants will be able to:

- 1) Implement strategies for water management leaders to interact with local populations and other groups in the water management process.
- 2) Use the decision-making support tools for water management, which have been created by the Sustainable Water Management team of the Arequipa Nexus Institute, and discuss how they can be used to facilitate water management in the Arequipa Region.
- 3) Respond and adapt to the contributions of water users to improve water management based on community needs.

Target Audience: UNSA faculty and students, as well as managers, technicians, or leaders working in water management who work with the various water users and who want to expand participation in integrated water management.

Completion and Certification: You may receive a Certificate of Approval to **Broadening Participation in Integrated Water Management in Arequipa** if you complete:

- All videos = 3 hours
- All readings = 8 hours
- All activities = 1 hour
- All homework = 8.5 hours
- Attend the live session (or watch the recording) - 1.5 hours
- TOTAL - 22 hours

Access and Process of Taller: Workshop material can be accessed through campus.extension.org. The workshop has an introduction, along with 8 modules. In these modules, there are videos, readings and a module evaluation, all of which are accessible through the workshop's website. Some modules also include a forum discussion and questions, as well as activities. Each week a module and all associated materials will

be released, as shown in the following table. If you have any questions when accessing or viewing the material, please contact Katy Mazer kmazer@purdue.edu.

Activities and Homework: All activities and homework can be submitted through the workshop website. In the same link where you access the homework (or activity), there is a place where you can upload and submit your work. After you submit assignments and activities, you'll receive feedback on your work from the workshop instructors. Surveys can also be accessed through links on the website. The table provides suggested due dates⁺, but participants can complete the work at their own pace. They will be eligible to receive a certificate as long as all material is turned in by April 30, 2021. If you have any questions about workshop details or the assignments, you can contact Katy Mazer at kmazer@purdue.edu.

⁺Due dates are suggested. They are meant to help guide your workflow if you need it. There are no official due dates. All submitted work will be counted towards the certificate if completed by April 30, 2021.

Evaluations: This is the first time the **Broadening Participation in Integrated Water Management in Arequipa** workshop has been held. In an effort to assess whether the workshop was useful in addressing needs in the region, we will have surveys at the end of each module, as well as at the end of the workshop. Here, you can provide feedback on how effectively you think the material was to increase understanding of the module objectives. *Your feedback is very important to us, and we ask you to complete these surveys* to help us improve this workshop for future audiences to improve integrated water management at Arequipa. Thank you!

Module	Objectives and Components <i>*indicates that it is required</i>	Date of	
		Release	⁺ Suggested due date
Enter	<u>Introduction to the workshop</u> <ul style="list-style-type: none"> ● <i>*Video: Introduction to the project team and workshop</i> ● <i>*Video: Website tutorial</i> ● Forum: Self-introductions 	Feb 1	Feb 8
1	<u>Module 1: Stakeholder participation</u> Objectives – after this module, participants will be able to: <ul style="list-style-type: none"> ● Identify different stakeholder groups. ● Discuss the importance of involving different stakeholder groups. ● Implement strategies to increase stakeholder engagement. <u>Components</u> <ul style="list-style-type: none"> ● <i>*Reading 1: Good practices for water management</i> ● <i>*Video 1: Identify stakeholders</i> ● <i>*Activity A: Stakeholder matrix</i> ● <i>*Reading 2: Stakeholders in water management</i> ● <i>*Video 2: Inclusion of stakeholders</i> ● <i>*Activity B: Engaging stakeholders</i> ● <i>*Reading 3: Promoting participation among diverse groups</i> 	Feb 1	Feb 8

	<ul style="list-style-type: none"> • *Homework: Strategies to engage stakeholders in your project • Survey: Module 1 Evaluation 		
2	<p><u>Module 2: Plan for climate resilience using AQP-Clima</u></p> <p>Objectives – after this module, participants will be able to:</p> <ul style="list-style-type: none"> • Understand available climate data and climate infrastructure in Arequipa. • Identify some challenges facing communities and institutions in Arequipa due to a changing climate. • Use AQP-Clima to analyze historical data and climate trends in the Region. <p><u>Components</u></p> <ol style="list-style-type: none"> 1. *Reading 1: ABCs of the Law Framework on Climate Change 2. *Video 1: The need for climate resilience planning 3. *Reading 2: Climate fact sheet in Colca Valley 4. *Video 2: AQP-Clima 5. *Reading 3: Existing Climate Infrastructure fact sheet 6. *Reading 4: What are Peru's new environmental policies? Will they have an effect? 7. *Homework: Using data to support climate decisions 8. Forum – Climate policy discussion 9. Survey: Module 2 Evaluation 10. Resource: AQP-Clima 	Feb 8	Feb 15
3	<p><u>Module 3: Setting goals for your community</u></p> <p>Objectives – after this module, participants will be able to:</p> <ul style="list-style-type: none"> • Understand how the logic model can help your group develop activities and products that will lead to measurable outcomes and impacts. • Develop a simple logic model for your watershed or project, including the activities and products you will create that lead to desired outcomes. • Express the results your group wants to achieve in the next 1-3, 4-6 and 7-10 years. <p><u>Components</u></p> <ul style="list-style-type: none"> • *Reading 1: Water quality policy objectives • *Video 1: Implement logical models to set goals • *Activity A: Start a logical model • *Reading 2: Logical Model Development Guide • *Video 2: Create measurable outcomes • *Activity B: Measurable outcomes • *Reading 3: 7 steps to achieve group goals • *Homework: Create your own logic model • Survey: Module 3 evaluation 	Feb 15	Feb 22

4	<p><u>Module 4: Water supply management using HidroAQP</u></p> <p>Objectives – after this module, participants will be able to:</p> <ul style="list-style-type: none"> • Understand available data and current water availability conditions in Arequipa. • Use HidroAQP to help calculate water balances in the water supply. • Consider water supply difficulties in the Arequipa Region. <p><u>Components</u></p> <ul style="list-style-type: none"> • *Reading 1: River discharge data in Arequipa • *Video 1: Streamflow and hydrological modification • *Reading 2: Environmental impact on reservoirs • *Homework part 1: Hydrologic data • *Video 2: Introduction to HidroAQP • *Homework part 2: Understanding streamflow with HidroAQP • Forum: The importance of streamflow data • Survey: Module 4 evaluation • Resource: HidroAQP 	Feb 22	1 sea
5	<p><u>Module 5: Interpreting water quality data</u></p> <p>Objectives – after this module, participants will be able to:</p> <ul style="list-style-type: none"> • Understand available water quality data and existing water quality infrastructure in Arequipa. • Use SWM instruments (Macroinvertebrate Guidebook, EASYINDEX-Water, calculator) to interpret water quality to make it more understandable for the general public. • Evaluate existing water quality data with the macro-invertebrate guide and water quality visualization instrument. <p><u>Components</u></p> <ul style="list-style-type: none"> • *Reading 1: Available water quality data fact sheet • *Video 1: Water quality basics • *Reading 2: Environmental Quality Standards (ECAs) • *Video 2: Macroinvertebrate Guidebook • *Video 3: EASYINDEX-Water • *Reading 4: Water quality index calculations • *Homework: Interpret water quality data • Survey: Module 5 evaluation • Resource: Preliminary Macroinvertebrate Guidebook • Resource: EASYINDEX-Water (map and calculator) 	1 sea	8 Sea
6	<p><u>Module 6: Effective communication</u></p> <p>Objectives – after this module, participants will be able to:</p>	8 Sea	15 Mar

	<ul style="list-style-type: none"> • Identify different ways to communicate based on the target audience. • Identify challenges associated with effective communication. • Apply important aspects of an effective communication plan. <p><u>Components</u></p> <ul style="list-style-type: none"> • *Video 1: Effective communication - case study • *Reading 1: Create a plan for communication • *Video 2: Communication on water outages • *Video 3: The implementation of a communication plan • *Reading 2: Adapting community interventions for different cultures and communities • *Homework: Share tools using effective communication • Forum: Overcoming communication challenges • Survey: Module 6 evaluation 		
7	<p><u>Module 7: Leading Effective Meetings</u></p> <p>Objectives – after this module, participants will be able to:</p> <ul style="list-style-type: none"> • Identify the phases of an effective meeting. • Identify key pieces involved in planning a public meeting. • Learn strategies to avoid and overcome challenges during meetings. <p><u>Components</u></p> <ul style="list-style-type: none"> • *Video: 10 tips for executing effective meetings • *Reading 1: 10 tips for effective meetings • *Reading 2: Leading effective meetings • *Reading 3: Techniques for facilitating group discussions • *Homework: Reflecting a meeting • Forum: Effective meetings • Survey: Module 7 evaluation 	15 Mar	22 Mar
8	<p><u>Module 8: Learning and Adaptation</u></p> <p>Objectives – after this module, participants will be able to:</p> <ul style="list-style-type: none"> • Understand the need for adaptation in integrated water management. • Identify some key feedback and criticisms they may receive from local stakeholders, especially local communities. • Identify tools to address aspects of feedback and criticism during and after meetings. <p><u>Components</u></p>	22 Mar	29 Mar

	<ul style="list-style-type: none"> • *Video 1: Adaptive management in integrated water management • *Reading 1: Historical evolution of water resource management in Peru • *Video 2: Accepting feedback and criticism • *Reading 2nd: Watershed councils in Peru: Part 1 • *Reading 2b: Watershed councils in Peru: Part 2 • *Homework: Accepting criticism • Survey: Module 8 evaluation 		
9	<p><u>Review</u></p> <p>Live virtual session to review the workshop (date to be determined)</p> <ul style="list-style-type: none"> • Time to address questions and doubts • Discussion <p><u>Other materials</u></p> <ul style="list-style-type: none"> • Survey: Final evaluation of the workshop 		