Teachers learn from their students, and students learn from each other. As in the past, the 70 participants in this training course identified the key lessons learned over the intensive two-week period. During the concluding session of the program, they shared their reactions to formal presentations and informal networking. PURC’s staff appreciates the dedication and energy exhibited by participants: they brought energy, insight, and understanding to the sessions and shared their ideas with all of us.

PURC’s Director, Mark Jamison, noted that the lessons tend to be strategic rather than technical in nature—suggesting that many of the important ideas involved how regulators, representatives from government ministries, infrastructure managers, and consumer advocates needed to “get on the balcony.” Intentionally stepping back from the “give and take” of regulation allows leaders to see how various stakeholders limit or promote reform. We hope that the annotated list of lessons stimulates further discussion among all those involved in these important sectors.

One admission: after writing down the lessons suggested by participants during the last session, I collected the overhead slides and returned to my office. I accidentally left the first slide at the Conference Center, and now those eight ideas are “lost”. So I have incorporated some ideas from the June 2007 course into this set—the list is now a “hybrid”. The following represent some lessons identified by participants in June 2007, but these points are primarily those articulated in January 2008.

1. **Managing the regulatory process** is important: comprehensive strategies and sound procedures can promote improvements in infrastructure performance. Every person in the agency can contribute to the effectiveness of the organization.

2. **Viewing the big picture** keeps regulators and managers from getting lost in the details. Look to the “end-game” as the result of a sequence of decisions and reactions. It’s always useful to ask: why are we doing this? Can we do it better?

3. **Strengthening skills** and developing new capabilities enable professionals to prepare for and meet emerging issues.

4. **Reform is a continuous process**: do not “copy” what others have done, but learn from the successes and mistakes of others. Adapt and revise tactics utilized by others.
5. **There is no single recipe** for improving infrastructure performance: leaders in each nation must develop their own strategies, consistent with national priorities.

6. **Promoting change can be painful.** Human nature being what it is, many are unwilling or unable to take initiative and to become change agents. Identifying people who will push very hard for excellent performance is a key task of leaders.

7. **Regulation involves continuous learning.** It is a dynamic process, requiring regulators and stakeholders to monitor developments, measure performance, and motivate colleagues.

8. **Three skills for leaders** are the abilities to plan, manage, and communicate. These skills reinforce one another and, ultimately, determine whether organizations succeed or fail.

9. **Promoting public awareness** about the roles and responsibilities of regulators and managers is an important task. Acquiring adequate knowledge and skills present great challenges to poorly funded agencies. To achieve acceptance (and harmony) requires that all stakeholders understand the legitimate roles assigned to various groups. It is useful to separate policy-making, policy-implementation, and operations.

10. **Tools of regulation are like dynamite – “use with caution.”** Technical skills are necessary but not sufficient for performance-enhancing regulation. One should not under-estimate the importance of non-technical aspects of organizations, including ways to promote ethical behavior, strengthen people skills, and develop leadership. Technical jargon can hide as much as it clarifies: and sometimes the tools are the source of substantial disputes.

11. **Regulation is a multiparty process.** The regulator’s task to balance those interests, often as an impartial umpire. The outcome is unlikely to satisfy each stakeholder’s ideal.

12. **Regulate only when necessary** and not where it happens to be possible. Regulators must assess each specific situation. Regulatory decisions and rules will differ across countries, sectors, and stage of industry development.

13. **Regulator should monitor new studies** by companies, universities, consultants, and other organizations. Information availability is always a key in establishing targets, dividing tasks, and conducting evaluations. It is not easy to satisfy all the people’s interests, but benchmarking can reduce information asymmetry.

14. **Regulatory design and decisions are crucial** for promoting the delivery of infrastructure services Regulation is all about incentives. Cost of service regulation, price caps, and hybrids all send signals to regulated firms. Therefore, it is imperative that the impacts of rules be fully anticipated.
15. **Obtain information and apply sound analytic frameworks** before making judgments (decisions). Data are fundamental in a regulatory environment. Participants are entitled to their own opinions, but not to their own “facts”. Extracting information from state-owned enterprises may be one of the toughest tasks for a newly created regulatory commission.

16. **Maintaining or asserting independence is never simple.** Autonomy can limit the role of politics; however, if the political context is ignored, the sustainability of the regulatory system is called into question. Regulators can increase their impact by enhancing transparency.

17. **Make decisions that are timely and “neutral.”** Delays are not neutral with respect to impacts. Furthermore, those favoring the status quo (over reform) are content with current poor performance. They do not want regulatory leaders who set goals, implement programs, and evaluate the impacts of decisions. “Neutral” or balanced decisions will tend to focus on substantive issues, weighing the consequences of alternative rules in terms of national priorities (as reflected in legislation). A regulatory process that adheres to schedules and results in timely decisions is important. However, substance (attention to consequences) is even more important.

18. **Developing country gets lessons from developed countries.** Infrastructure professionals are journeying on a long road. Nations need to build institutions that promote public confidence. Capacity building is important for companies and for regulatory agencies.

19. **Transparency and citizen participation** give political leaders and opinion leaders confidence in the process. One task of regulators is to develop realistic expectations on the part of all the stakeholders: information on sector trends, current best practice, and realistic targets all require a strong factual basis. “The fewer the facts, the stronger the opinion.” (Anonymous)

20. **The principles of regulation apply across all nations**, but the implementation of the principles requires significant attention to the current political and business context. No one person possesses all the skills necessary for making sound decisions. A good principle provides good guidance for implementing and monitoring rules.

21. **The task of regulation is to promote the “public interest,”** although there are many “publics” including future generations. Agency leaders must realize that every important decision is based on incomplete information. Avoid making decisions with inadequate information.

22. **Neither private nor public ownership guarantees service quality:** the issue is performance not ownership. Performance is driven by information, institutions, and incentives. If current ownership arrangements do not meet reasonable public
expectations, then changes should be considered. Making a state-owned enterprise credit-worthy enables it to issue bonds that provide capital for network expansion.

23. **Regulatory rules can involve hybrid arrangements:** mixtures of rate of return and price caps, for example. Sharing lessons across national borders (and sectors) can promote innovative approaches to value creation (via new products, improved quality, cost containment, and network expansion).

24. **Economics and finance provide valuable conceptual frameworks** for organizing data and developing decision-options. Learning should never be discouraged; it provides the basis for improved decision-making. Technical skills are necessary (but not sufficient) for sound regulatory and managerial decisions. Organizations must have systems that promote personal knowledge and professional development.

25. **Unbundling might limit cross-subsidization**, at the expense of lost economies of scope. Corporate operations tend to reflect technological opportunities. Regulators are then faced with the challenge of protecting customer groups without losing economies of scale and scope. For example, in natural gas transport, separating the commodity from transportation services provides consumers with choice. However, investors in the pipeline are raising funds from capital markets that are evaluating the risk of stranded investment: investors like to see long term contracts.

26. **Personal leadership is required for organizational effectiveness.** Each of us has strengths and limitations that must be honestly recognized and dealt with. Organizations that utilize groups or teams can draw upon a variety of skill-sets. A person can be a leader at one phase of a project and a “follower” in another.

27. **From a service provider standpoint, a regulatory agency can be a legitimate consumer advocate;** however regulators should not forget that ultimately, the main task is to be a high performance advocate. Generally, the regulator is a referee, but sometimes it is necessary to become a player—always seeking “win-win” options. If there is no consumer advocate, the regulator becomes the voice of those without a voice. Note that future consumers are the most “silent” stakeholders, so financial sustainability cannot be ignored.

28. **In developed and developing countries, infrastructure issues are similar.** While the former have more infrastructure facilities in place, the efficiency of operations is still essential—whatever the stage of development. Infrastructure is characterized by its complexity and the strategic role it plays in promoting growth in the entire economy.

29. **A totally independent regulator is a myth,** but it is reasonable to seek minimum political interference. Regulators must be politically aware, but they need to be insulated from day-to-day politics. “Independence” cannot be absolute, since any government agency is embedded in a legal system and must be accountable to the electorate.
30. **Regulation is a dynamic (and interdependent) process:** professionals must be ready to learn and adapt to new circumstances when making decisions. Infrastructure professionals have counterparts around the world. You are not alone. Issues faced by different countries and in different infrastructure sectors are not unique. Network industries have similar features, in terms of shared costs, political visibility, and social importance.

31. **Cultural settings matter:** a nation’s culture and history establish constraints and expectations. Historical patterns of ownership and investment affect the starting point for new initiatives. Nothing changes over night, especially in sectors that take decades to build out. Regulation must move beyond abstract concepts to the concrete realities behind those ideas. So leaders must be engaged in balancing, evaluating, communicating, and promoting collaboration.

32. **Regulators can share information on issues:** Financial activities of operators (including sources of finance), managerial incentives, targeting subsidies, promoting efficiency, providing long run price signals. Regional collaborations can help regulators learn from one another: via regional groups like ERRA, AFUR, ADERASA, SAFIR, and EAPIRF.

33. **Benchmarking provides information that is necessary (but not sufficient)** for improving performance. Comparisons over time and across enterprises enable one to identify best practice. In addition, trends indicate whether progress is being made towards objectives. Yardstick comparisons can be incorporated into incentive systems.

34. **Laws that promote “Government in the Sunshine”** can increase public access to information. Furthermore, citizen participation provides input into the process and educates opinion leaders about the feasibility of reaching policy objectives. Since no one has all the answers, engaging stakeholders in the decision-process increases the likelihood that good ideas will be identified and that special interests will not dominate the process.

35. **Regulation is both an Art and a Science.** Many options are available for regulators: the art involves selecting (when possible) the approaches that generate win-win outcomes. The science involves applying conceptual frameworks that have stood the test of time. These frameworks draw upon economics, finance, law, engineering, and many other fields. Contexts differ across sectors; for example, liberalization might be feasible in telecommunications, but infeasible for water and sewerage—given the technologies and income elasticities of those services.

36. **Training is useful for cross-fertilization of ideas, people, and cases.** Learning arises from all types of interactions. In the context of this training course, we learned from faculty and from each other. The lesson is that we need to tap into the skills of everyone in an organization.
37. **Journalists, through the media, transmit information that influences public attitudes.** The reliable information from the media is a prerequisite to setting targets, establishing incentives, and monitoring performance. Regulators earn credibility with government ministries (and investors) and legitimacy with citizens by demonstrating their competence and balance. As Daniel Carpenter writes in *The Forging of Bureaucratic Autonomy* (2001, Princeton University Press): “Bureaucratic autonomy . . . emerges not from fiat but from legitimacy.” Public communication is central to this process.

38. **We all make mistakes:** admit them since ultimately the “bad news” will become widely known. Mistakes cannot be avoided. Whenever a regulatory or managerial decision turns out to have unanticipated negative consequences, admit it, learn from it and move on. No one expects perfection. Most citizens appreciate candor.

39. **We now take our new skills and attitudes home** for the benefit of those who supported us. The friendships established at this Training Program give support, inspiration, and hope. Networking with new friends and with colleagues can be a source of strength as we all tackle challenges in the days ahead.

### Additional Resources


The *Handbook for Evaluating the Effectiveness of Regulatory Systems*  
- provides an overview of why, what, and how to evaluate regulatory systems;  
- discusses the rationale for regulatory evaluations and describes various forms of regulation;  
- compares the dominant styles of evaluation, emphasizing the importance of analyzing regulation systems against sector-based outcomes;  
- presents the case for using the independent regulator as the benchmark for performing the most credible and effective evaluations;  
- details elements of different hybrid or transitional regulatory systems when “best practice” regulatory systems are not feasible;  
- describes how to assess the impact of regulation on sector outcomes and provides tools to identify these impacts;  
- offers guidance on conducting quick, mid-level, and in-depth evaluations of regulatory systems.

Please follow this link to view the document online:  
Additional Lessons

Here are some additional lessons from *The Practice and Politics of Regulation: Regulatory Governance in Indian Electricity*, by Navroz K. Dubash and D. Narasimha Rao, Macmillan India Ltd. 2007. The authors refer to their evaluation of the Indian experience, but the points should resonate with anyone who has attempted to improve infrastructure performance in the developing world.

1. New electricity regulators are constrained in acting as active stewards in electricity reform.

2. Uncertainty about selection processes for regulators and weak regulatory capacity hamper effectiveness and undermine legitimacy of regulators.

3. Ambiguity in the operating procedures and the lack of guiding norms around regulatory procedures leave scope for considerable variation in approach and exercise of individual discretion. Where there is a common approach, it is based on the prevailing mindset of public utilities.

4. Regulators exercise limited use of their powers due to an arms-length approach to scrutiny. While even this limited approach has led to non-trivial benefits, it has led them to avoid grappling with the most intractable problems in the sector.

5. Regulators side-step overtly political decisions by erring on the side of safety and defensibility, balancing pressures to accommodate while striving to maintain an apolitical façade.

6. Procedures for stakeholder involvement have introduced a welcome measure of transparency, but loopholes in procedures and their implementation remain, particularly with regard to information disclosure and regulators’ responsiveness to stakeholder interventions. Stakeholder participation overall is weak, and the impact of stakeholder participation falls well short of a desirable “stakeholder model” of regulation.