Innovation platforms for agricultural development case studies: Nile Basin Development Challenge case study – Questions and answers

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Notes

To generate discussion around key themes, we have provided an exhaustive list of questions (with suggested answers and talking points) for this teaching note. The facilitator may pick 1-2 questions per section, depending on the need and level of the audience, to make sessions more interactive.

We have devised a range of questions, including multiple choice questions, discussion questions and class activities. These are classified as 'Introductory level' (suitable for all, including those new to the innovation platform world) and 'Advanced level' (intended for sessions with more experienced learners).

Multiple choice questions can be done as a clicker exercise. You can tabulate the results of the entire group and then discuss any answers where the learners differ widely or are completely off the mark in their answers.

Material source: Lema, Z., Abenakyo, A., Le Borgne, E. and A. Duncan. 2016. Innovation platforms for improved natural resource management and sustainable intensification in the Ethiopian Highlands. In: Dror, I., Cadilhon, J.-J., Schut, M., Misiko, M. and Maheswari, S. (eds), *Innovation platforms for agricultural development: Evaluating the mature innovation platform landscape*. Oxon, UK: Routledge. pp 117-132.

System trade-offs call for IPs

Introductory level

Discussion questions

Q1. Why are the Ethiopian Highlands a land degradation hotspot?

A1. To meet the food demands of the nation's burgeoning human population, farmers have had to begin growing food on steep, marginal land with fragile soils.

Q2. What is the impact of land expansion in the Ethiopian Highlands?

A2. Land expansion in the Ethiopian Highlands results in extensive soil loss, sedimentation of watercourses and land degradation, all of which have a negative impact on production and productivity for small farmers.

Q3. How were the three IPs that were set up under the Nile Basin Development Challenge (NBDC) different from most other platforms? What impact did their approach to natural resource management have on the effectiveness of their intervention?

A3. Whereas most platforms focus on a single commodity, the three IPs organized in different woredas (districts) focused on system integration. That is, instead of focusing on improving the yield of a single crop, for instance, the NBDC interventions implemented changes at the system level, which, in turn, led to the collective action needed to make a positive difference.

Multiple choice questions

Q4. What is the impact of land expansion in the Ethiopian Highlands?

A. Soil loss
B. Sedimentation of watercourses
C. Land degradation
D. All of the above

A4. Answer: D

Initiation of the three platforms

Introductory level

Discussion questions

Q5. Why don't most farmers in the Ethiopian Highlands have the resources to invest in long-term improvements that would improve productivity?

A5. Because most production is at the subsistence level, farmers don't have the resources to invest in things like soil and water conservation structures, even though they would increase productivity.

Q6. How will intensifying the existing production of staple food crops, cash crops, livestock and trees help reverse land degradation?

A6. Intensifying the existing production of staple food crops, cash crops, livestock and trees will reverse land degradation, which will not only reduce the need to expand into land that is unsuitable for cultivation but will also generate enough capital and provide financial incentives for farmers to invest in their land.

Q7. Why has Ethiopia's current government struggled to get farmers involved in rainwater management issues? What effect does this have on government efforts to mitigate soil degradation?

A7. The government attempted to implement top-down targets, but most farmers are concerned with short-term incentives that allow them to increase food production for their families and livestock, which will, in turn, allow them to invest in land. In addition, most farmers use free grazing to feed their livestock, which jeopardizes the long-term success of local government initiatives on soil and water conservation structures.

Multiple choice questions

Q8. Addressing the problem of land degradation requires multiple individuals and organizations to come together and take collective action, but in order for farmers to invest in these interventions, the interventions must:

A. Provide clear financial benefits for the farmers
B. Improve crop and livestock productivity
C. Provide improved marketing
D. All of the above

A8. Answer: D

Q9. What did the Nile Basin Development Challenge (NBDC) seek to accomplish?

A. Implement improved rainwater management practices
B. Enhance the natural resource base for existing farming systems
C. Both A and B
D. Neither A nor B

A9. Answer: C

Q10. Which of the following phrases best characterizes farming systems in the Ethiopian Highlands?

A. Mixed crop-livestock farming
B. Largely subsistence based
C. Both A and B

D. Neither A nor B
A10. Answer: C

Q11. How many districts did the NBDC's initial IPs serve?
A. Two
B. Three
C. One
D. Five
A11. Answer: B

Q12. Which districts did the NBDC's initial IPs serve?
A. Jeldu, Fogera and Diga
B. Jeldu and Diga
C. Diga and Fogera
D. Jeldu and Fogera
A12. Answer: A

Advanced level

Class activity
Q13. The Ethiopian government has struggled to get farmers involved in rainwater management issues. What steps would you take if you were tasked with developing and implementing an intervention program aimed at improving rainwater management, with limited resources at your disposal?
A13. Answers will likely vary, but they should focus on gathering information from farmers and using this information to develop training and, if possible, purchasing inputs that will help farmers make better use of rainwater on their land.

Function of the platforms

Introductory level

Discussion questions

Q14. Who took part in the NBDC's IPs?

A14. Local stakeholders who directly or indirectly planned and implemented natural resource management activities in each woreda (district) were initially approached to join. Most members are from local government offices at the woreda level, but membership also includes NGOs, research centres, farmers and community leaders. For each of the platforms, up to 30 members agree to meet at the woreda headquarters three to four times a year to co-learn and coordinate joint activities.

Q15. How did the IPs determine which natural resource management issues to address?

A15. They held a series of engagement activities to gauge members' interests. These activities included community engagement exercises and regular platform meetings. These activities fostered constructive dialogues, which helped the groups reach consensus on which site-specific natural resource management issues to focus on.

Q16. Which issues did the IPs for each woreda choose to focus their efforts on? How did they elect to address these issues? Why did they choose to address the issues in this way?

A16. Each woreda chose to target a different natural resource management issue. Soil erosion was identified as a priority in Jeldu. In Diga, the IP elected to focus on land degradation, while in Fogera, free grazing was given priority. However, the groups determined jointly that improved and multipurpose livestock feed would help address each of the problems. This would not only address the problem of feed shortages but would also boost soil and water conservation.

Q17. How did the IPs implement their interventions on livestock feed?

A17. Each platform developed its own implementation plan and agreed to evaluate their interventions annually through active participation in regular meetings and farm visits during field days. In addition, some members formed a technical group that was responsible for facilitating meetings, implementing interventions and organizing field days and exchange visits.

Q18. Discuss the makeup and responsibilities of the technical group members.

A18. Each IP chose eight members to serve as part of the technical group, which was responsible for facilitating meetings, implementing interventions and organizing field days and exchange visits. These members were drawn from multiple disciplines and included technical staff from key organizations. Members of the technical group agreed to provide updates about the implementation's progress during regular meetings. ILRI supported the technical group by building the local capacity of forage interventions.

Multiple choice questions

Q19. How did IP managers help build consensus among different stakeholders?

A. Administered a survey to collect data from different groups of participants
B. Hosted engagement activities, including regular meetings and engagement activities
C. Held training activities to educate farmers about the government's aims
D. None of the above

A19. Answer: B

Q20. Why did each IP elect to focus on improved and multipurpose livestock feed?
A. To address the problem of feed shortages
B. To boost soil and water conservation
C. Both A and B
D. Neither A nor B
A20. Answer: C

Advanced level

Class activity
Q21. Because the NBDC IPs involved participants from multiple sectors and multiple districts, it took a long time to reach consensus on the focus of their IP. If you were building a multi-sector, multi-district IP, what strategies would you use to build community and consensus among the different stakeholders? You may ask learners to come up with answers individually or you may pair them off into small groups of 3-5 to discuss and devise solutions collaboratively.
A21. Learners are free to come up with an exhaustive list of answers. However, the best answers will create a solution that would:

- Foster a sense of community
- Create a shared sense of responsibility
- Allow for productive dialogues
- Lead to solutions that address the needs and goals of all stakeholders

Innovation fund to support fodder development

Introductory level

Discussion questions

Q22. How did the IPs fund their fodder development initiatives?

A22. In 2012 and 2013, ILRI established an innovation fund as 'seed' money to support each platform. Members collaborated to develop proposals that would allow them to pilot their programs with participating farmers. To earn seed money, these proposals needed to be cross sectoral, participatory, targeted at addressing local community concerns and scalable. Seed money was only used to buy inputs, transport them to farmers' fields and support farmer training three times per year.

Q23. The IPs provided practical trainings for farmers three times a year. What did these trainings focus on?

A23. The practical trainings focused on planting, managing and utilizing farmers' fields. Developing farmers' capacity to harvest seed and seedlings and to expand the planting of new fodder varieties was a particular focus of these trainings.

Q24. What role did the community play in implementing the livestock fodder interventions?

A24. Community engagement was key to every step in the process. Members of the community identified, planned and implemented the fodder intervention. Farmers who received training on how to plant, manage and utilize feed resources learned to collect seeds and seedlings before harvesting Rhodes grass and transplanting Desho grass seedlings. As a result of these trainings, the practices are expanding to other farmers in the community.

Multiple choice questions

Q25. Why were farmers interested in participating in the NBDC's livestock feed intervention?

A. Participants received direct financial aid from the government in exchange for their participation
B. Improved feed sources allow farmers to feed their hungry livestock
C. The NBDC guaranteed that their efforts would be rewarded
D. None of the Above

A25. Answer: B

Q26. How are the model farmers who received training benefitting their communities?

A. Their practices are now spreading to other farmers in the community
B. They eliminate the need for additional training at the community level
C. They have had no benefit on their communities
D. None of the above

A26. Answer: A

Q27. What qualities did ILRI require in its proposals for 'seed' money?

A. Cross sectoral
B. Participatory
C. Scalable
D. All of the above

A27. Answer: D

Advanced level

Class activity

Q28. ILRI established an innovation fund and used a proposal system to award 'seed' money for fodder development initiatives. ILRI criteria specified that the proposals needed to be cross sectoral, participatory, targeted at addressing local community concerns and scalable. Work with your classmates to outline a proposal that meets all of these criteria. You may focus on issues faced by farmers in the Ethiopian Highlands or address topics that are of local concern to one or more of your group members.

A28. The responses will vary by group, but each response should include an explanation of how their proposed intervention:

- Includes participation from two or more sectors
- Is participatory
- Addresses local community concerns
- Is scalable

The role of different actors in scaling up

Introductory level

Discussion questions

Q29. What role did district-level actors play in scaling up the intervention?

A29. Involving district administrators in the process proved beneficial. Because these administrators regularly participated in the regular learning meetings and farmers' field days, they realized that working closely with participating farmers could resolve the shortage of forage seed. Local government and NGO representatives, who were impressed by the farmers' achievements, have begun working more closely with model farmers in an effort to train other farmers and maximize the intervention's impact.

Q30. Why was a cross-sectoral approach deemed necessary for the intervention's success?

A30. Involving multiple sectors in the intervention brings in the expertise, experience and resources of multiple actors. In this instance, Wollega University provided technical support for the platform by providing seed for Rhodes grass from its livestock feed demonstration research site, while NGOs supported and worked with local government staff to transport inputs to farms. In addition, the development of farmer-to-farmer networks not only allowed participants to buy and sell livestock forage seeds and seedlings but also provided an opportunity for them to learn about planting and managing the seeds.

Q31. What role did other CGIAR centres working on the Humidtropics program in Ethiopia play in supporting the IPs in Diga and Jeldu?

A31. Impressed by how the IPs in Diga and Jeldu were using livestock feed interventions to manage natural resources, the International Water Management Institute (IWMI), the International Potato Center (CIP) and the World Agroforestry Center (ICRAF) provided support for platform members to address the main crop production and market problems, develop the livestock feed market, and continue working on natural resource management.

Multiple choice questions

Q32. Why was a cross-sectoral approach deemed necessary for the intervention’s success?

A. It increased the likelihood of receiving external funding
B. The ability to draw on the expertise, experience and resources of multiple actors
C. Both A and B
D. Neither A nor B

A32. Answer: B

Outcomes and impact of the intervention

Introductory level

Discussion questions

Q33. How did the interventions change after NBDC was phased out?

A33. After NBDC was phased out, the Humidtropics program continued working in Jeldu and Diga. The scope of the intervention was broadened to include increasing the production and productivity of the main crops (maize, teff, barley and wheat). This was accomplished through an integrated approach that continued the livestock feed and natural resource conservation initiatives while also introducing improved management practices and seeds (including an improved variety of sweet potato in Diga).

Q34. What impacts did the NBDC hope to achieve as a result of their interventions?

A34. According to the NBDC logic model, they hoped that the cross sectoral, community-driven interventions would lead to improved farming livelihoods, more resilient social and ecological systems, and improved food security.

Q35. How and why did gender impact soil and water conservation practices in Jeldu and Diga?

A35. Women tended to plant grasses and legumes, while men tended to plant trees and construct terraces and bunds. There are several potential explanations for this gendered behaviour. Constructing dams and soil bunds require more strength and sustained labour, while planting legumes can be balanced with other activities around the home, such as feeding animals.

Q36. What methods did the farmers who took part in the NBDC project deem successful? Why did they deem these methods successful?

A36. Eighteen farmers (11 male, 7 female) across the three sites cited growing animal fodder and legumes, area closure, and terrace constructions as the most successful methods. Seventeen farmers (14 male, 3 female) noted that forage development was the most effective method. These methods were deemed successful because they increased their earnings as a result of having more alternative animal feed sources available, especially during dry spells, increased crop productivity, regeneration of vegetation on previously degraded land, mitigated termite damage, reduction in soil erosion and increased milk yield and quantity.

Q37. What unanticipated benefit did the intervention have for participating farmers?
A37. Farmers were able to sell the seeds and gain income from the feed intervention. Rhodes grass seed can be sold for 150 Ethiopian Birr (approximately USD 7) per kilogram. In Fogera, 9 tonnes of fodder were harvested, which allowed 11 cattle to be fattened for market. In Diga, farmers sold more than 60 kg of Rhodes grass seeds to government and NGO projects for scaling up. Leta, a male farmer in Diga, planted Rhodes grass on one hectare of his private land for his fattening business. He bought four oxen for ETB 4,000 (approximately USD 200) each and fed them Rhodes grass and complementary feeds for four months. At the end of that period, he was able to sell each for ETB 8,000 (or USD 400).

Q38. According to farmers, what factors contributed to the intervention's success?
A38. Farmers attributed the success of the intervention to training from NBDC/ILRI staff and other implementing partners, access to inputs, increased collaboration among stakeholders, and cooperation at the community and household level.

Q39. How did the intervention vary among the three participating woredas?
A39. In Diga, most respondents adopted fodder development, compost manure application and multipurpose tree species. Rhodes and Chomo grass were adopted by farmers. In Fogera, terrace construction, area closure, fodder development and legume were the methods most frequently adopted by farmers. A variety of natural grasses and legumes were adopted alongside grazing land management. Jeldu farmers adopted all of these strategies. Desho grass was adopted by farmers. In all three woredas, the number of farmers participating in fodder development has increased.

Q40. How have farmers changed their practices as a result of the skills and knowledge acquired during the intervention?
A40. Participating farmers report adopting more effective, cost-efficient practices. Both individually and at the community level, farmers have adopted new practices as a result of participating in the intervention. A female farmer in Diga explained that she has improved her skills in how to cultivate and mange improved forage over the past two years and that her farm management skills have improved over the past year. In addition, she has learned to save money by making compost manure instead of using a more expensive fertilizer.

Q41. How did participation in the intervention increase collaboration among community members?
A41. Whereas farmers previously focused on their own private fields and directed erosion downstream, now farmers work together as a community to mitigate erosion and promote better soil and water conservation practices.

Q42. How did participation in the intervention impact cooperation between husbands and wives?
A42. Participation in the intervention helped change attitudes about women's roles in natural resource management. ILRI's focus on the need for every member of the community to take an active role in managing natural resources helped illustrate the important role that women could play, especially in planting grasses.

Q43. How did participation in the intervention increase collaboration among planners, researchers and policy makers?
A43. Prior to the intervention, institutions worked independently. After being exposed to integrated participatory planning tools, planners and researchers changed their approach to

engaging with other stakeholders. Whereas before they would have primarily included experts, they now also include farmers. They now are committed to giving the 'voiceless' a voice in designing and implementing interventions rather than adopting a top-down approach.

Multiple choice questions

Q44. Why were farmers interested in participating in the NBDC's livestock feed intervention?

A. Participants received direct financial aid from the government in exchange for their participation
B. Improved feed sources allow farmers to feed their hungry livestock
C. The NBDC guaranteed that their efforts would be rewarded
D. None of the Above

A44. Answer: B

Q45. After taking part in the NBDC intervention, the model farmers were able to:

A. Feed their livestock during dry periods
B. Maintain their soils and natural resources
C. Both A and B
D. Neither A nor B

A46. Answer: C

Q47. What unanticipated benefit did the intervention have for participating farmers?

A. They received a government stipend for their participation
B. They were able to sell the seeds and gain income from the feed intervention
C. They saw a ten-fold increase in their initial investment
D. There was no benefit for farmers

A47. Answer: B

Q48. Participation in the intervention increased cooperation and collaboration among:

A. Members of the community
B. Husbands and wives
C. Planners, researchers and policy makers
D. All of the above

A48. Answer: D

Advanced level

Discussion question

Q49. The livestock feed intervention was successful in part because it was highly collaborative. Work together to create a list of challenges that might arise when dealing with stakeholders from different sectors and with different investments in the intervention. List several strategies to overcome each of the anticipated challenges.

A19. Participants' answers will vary, but will likely include strategies for resolving conflicts among actors at different 'levels,' from those who the intervention is designed to aid (farmers in this case study) to those who wish to reach certain targets for political or business reasons (government, industry).

Lessons learned and conclusion

Introductory level

Discussion question

Q50. What were the key challenges faced during the implementation of the improved fodder intervention?

A50. The stakeholders faced numerous challenges during the implementation, including time, incentives and the inability to realize outcomes in a short period of time. The need to address site-specific constraints took over a year because of differing interests among IP members: because the majority of public government line ministries (who have their own targets to achieve) were involved, their interests tended to dominate and/or override the community's interest. To balance the needs of multiple stakeholders required strong facilitation skills, which is why ILRI's research team implemented community engagement exercises to bring community interests to the fore. Additional challenges included high staff turnover and inconsistent participation among IP members, all of whom had other obligations to fulfil.

Q51. What are the main takeaways from this intervention? How can these insights be applied more broadly to other IPs?

A51. There are multiple lessons to be gleaned from the NBDC's intervention. First, setting up IPs significantly raised farmers' knowledge of soil and water conservation practices and farmers were able to apply this knowledge effectively in their own practice. The IP also created a sense of shared purpose among all stakeholder groups, including farmers, planners, researchers and policy makers. The IPs multi-stakeholder, multi-meeting and multi-year nature also highlighted a much richer set of interlinked issues (including soil erosion, climate change adaptation, termite degradation) than the initial focus of improving soil erosion and land degradation through feeds and forages. As a result, all actors were able to focus on the bigger picture and create systematic changes and paving the way for further initiatives to address future concerns.

The IP also highlighted the importance of emphasizing early returns on investment for farmers. Because farmers were able to see immediate benefits as a result of undertaking better natural resource management (including cattle fattening, which lead to higher profits), they were happy to participate. However, other incentives, including recognition and capacity development, could prove to be important incentives in the long run.

Q52. What challenges must future IPs concerned with natural resource management address?

A52. Future IPs must address both the sustainability and scalability of their interventions. One key challenge is fostering the collective capacity to innovate while also dealing with limited inputs and time and high turnover. Another challenge is fostering bottom-up interventions in government-dominated states with top-down decision-making processes. Once such a government adopts the notion of bottom-up decision making, IPs must also ensure that they are not used for 'token participation' by the state.

Multiple choice questions

Q53. This intervention was successful, but why might it be difficult to replicate in other contexts?

A. The Ethiopian government was invested in finding a collaborative solution to the problem
B. It took over a year to align agendas and visions among different stakeholders
C. Both A and B

D. Neither A nor B
A53. Answer: B

Advanced level

Discussion question
Q54. How can you apply what you've learned about the livestock feed intervention in the Ethiopian Highlands to your own context? Participants may answer this question individually or in groups, depending on the context.
A54. Answers will vary, but will likely focus on creating consensus among stakeholders with different motivations.