

LEARNING NOTE



DREAM II LEARNING EVENTS

28-April-2021

Educational institutionalization of the Dry Valley Rehabilitation and Productive Use Approach (DVRPU)



Flood-Based Livelihoods Network Foundation



DREAM II LEARNING EVENTS

The DREAM learning event was organized on April 28 2021 as one of the run-up events for the Development of Resilience Empowering Alternative Measures in Arid and Semi-arid Lowlands of Ethiopia Conference (DREAM II). The DREAM Learning Events are meant to create connections between different organizations working on lowland development, to share experience and discuss the scaling of the good practices. For further details on the learning events, presentations and full proceedings, kindly visit the DREAM SDR website <https://sdr-africa.com/>

The Learning Event discuss challenges and opportunities to institutionalize the Dry Valley Rehabilitation and Productive Use Approach (DVRPU) into education and research activities at universities and TVETs. The DVRPU offers great potentials for sustainable management and restoration of the dry valleys and educational institutionalization is regarded as a highly effective strategy to promote such transitions. This briefing note summarizes the main findings with a special focus on concrete approaches and actions for universities and TVETs.

The speakers at the Learning Event were:

Dr. Kaba Urgessa, Deputy permanent representative to FAO, IFAD and WFP

Dr Adem Borri - President - Samara University

Gerben van Ek, GIZ SDR-ASAL

Paul Roden GIZ

Dubale Admasu, USAID

Dr. Eyasu Yazew FBLN / Mekelle University

Dr. Paolo Paron, IHE Delft

KEY MESSAGES

- Dry valley in the lowlands represent a hot spot for development especially regarding land and water management. The challenges e.g erosion and rangeland degradation are serious, the urgency is high, but local capacities are limited as attention and resources concentrate in more productive systems e.g. highlands.
- DVRPU is a proven approach for systematically improving lowland's dry valleys, offering great potential for impact as larger scale. Realizing this potential lies largely in building human resource capacities for proper management, maintenance and spreading of the good practices under DVRPU.
- Educational institutionalization of the DVRPU approach is currently an overlooked, yet much needed solution to address capacity gaps in the lowlands. This process benefits the lowlands in several important ways:
 1. Build the currently poor resource pool, especially human capitals, for implementing DVRPU.
 2. Mainstreaming dry valley management and restoration into professional expertise and day-to-day operation of practitioners as well as into the policy and management domains.
 3. Establish and strengthen the meaningful participation and contribution of universities and TVETs into the upscaling process of DVRPU and dry valley management in general.
- Experts, educational professionals, NGOs and governmental representatives participating in the learning event envision a comprehensive process for the institutionalization:
 1. In the short run, focus on funding short courses on DVRPU at

universities and TVETs. Design compact on-job trainings for land and water professionals including extension agents, technical advisors and local staffs from the ministries.

2. Address the capacity gaps at universities and TVETs towards fully functional knowledge and education institutions catering DVRPU and related topics to students and professionals. In this regard, attention should be paid to: staff turnover and dedicated staff to specific topics; curriculum development with stronger links to practices and market demand; research on DVRPU approaches. All in all, the addressed gaps directly support the overarching objective to practically implement and adapt already field-tested DVRPU elements.
3. Curriculum development requires special attention, and will play a pivotal role in transferring, and upscaling DVRPU activities.
4. Institutional improvements at universities and TVETs, particularly building a network of organizations for exchanges, mentorships and coordinated research and education initiatives are recommended to build a knowledge and education community around DVRPU.

1. DVRPU APPROACH AND A PATHWAY TO SCALING UP KNOWLEDGE AND PRACTICES

The DVRPU - Dry Valley Rehabilitation and Productive Use is a systemic approach to induce and promote effective and sustainable rehabilitation and productive use of degraded land in dry valleys of the Ethiopian lowlands. The approach is motivated and justified by an urgent need to address widespread and accelerating degradation of the dry valleys, caused by climate change, invasive species and unsustainable (range)land and water management. The main rationales driving the DVRPU approach is that a combination of technical, infrastructure intervention with an array of stakeholder engagement, participatory planning and building commitment help the drylands to halt and reverse losses of the landscape stabilizing vegetation, soil erosion and land degradation. Concrete measures entailed under the DVRPU include:

- Community engagement, participatory appraisal and planning to build common understanding of the baseline situation and potential for intervention – with a special focus on sites and sizes of intervention measures.
- Implementing of physical measures and biological measures. Central in the physical measures is the water spreading weirs, complemented by dry-stone measures. Biological measures include planting bushes and grasses in strategic locations to stabilize the landcover, improving water infiltration, and reducing erosion.
- Follow-up measures for further development and maintenance of the implemented measures, for example promoting flood-based farming systems benefiting from the water spreading weirs, value chain development for agriculture sector, documentation, building up knowledge bases and institutionalizing these into research and education institutions.

A typical DVRPU circle spans about 10 years, with the first 3 years on

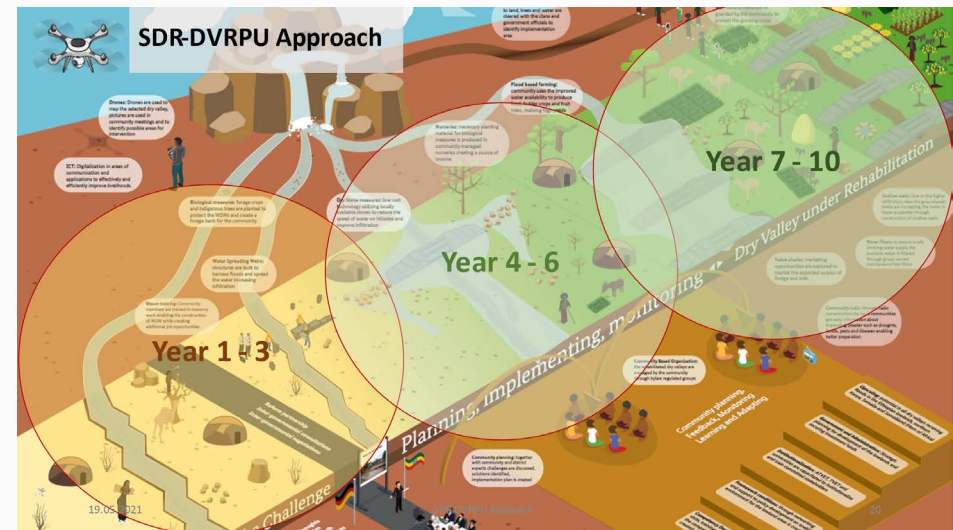
BOX: PHOTOS OF THE INTERVENTIONS



Photo credits: GIZ, Eyasu Yazew - Mekelle University

Top left: Water spreading weir; top right: Dry stone bunds; bottom left: Participatory design and implementation; bottom right: Vegetative measures (grass strips).

system assessment, stakeholder engagement and identify potential sites for intervention; followed by 3 years on planning, implementation and monitoring of the interventions (physical and biological ones), and concluded by about 4 years on dry valley rehabilitation activities around water, agriculture and livelihood promotion. Further details on the planning, design and technical implementation of the DVRPU approach is [available here](#).



Credits: GIZ SDR-ASAL

DVRPU shows transformative power in tackling dry valley degradation, especially gully erosion, as well as reviving the systems towards higher productivity and resilience. The direct benefits of the intervention, especially the water spreading weirs are very quickly visible. Large, growing gullies stop cutting into the landscape, get filled up with sediment and fertile land appears 2 to 3 years after the weir construction. Biomass and productivity of the treated landscape increases 3 to 4 times, contributing greatly to local food production and water supply.

The huge potential and wide applicability motivate to bring DVRPU further, reaching more people and communities and forwarding the lowlands towards productive, sustainable, and resilient systems. One of the important pathways for this quest is to institutionalize the DVRPU approach and insights into research and education activities at universities and TVETs. At a first glance, such an institutionalization process seems natural and strongly beneficial in many senses. For the knowledge institutions, integrating DVRPU approach into research and teaching portfolio helps improving the connection to practices and the community of practitioners. Graduates will directly benefit from the refreshed and updated knowledge and skills that help them to find suitable jobs with the right professions. For the local community and government, the institutionalization would improve the much needed human resources and capacities to improve land and water management in the dry lowlands – regions that have been overlooked and now require much stronger attention and investment. In a broader sense, scaling up the DVRPU approach would benefit the efforts in controlling dry valley degradation and bring these systems back to the people with their full productivity and prosperity. The logics and rationales seem strong, however there are important steps to take and barriers to remove to move towards a truly sustainable and beneficial institutionalization process of the DVRPU.

2. A QUICK SCAN OF POTENTIALS AND BARRIERS OF INSTITUTIONALIZING DVRPU APPROACH IN RESEARCH AND EDUCATION ENTITIES

POTENTIALS OF UNIVERSITIES AND TVETS TO INTEGRATE THE DVRPU APPROACH

First and foremost, a strong level of interest and willingness to collaboration is acknowledged by both universities and TVETs regarding integrating DVRPU approach into their research and education portfolio. This is an important prerequisite for meaningful and sustainable institutionalization processes. All participating parties in the learning event, including Hailemariam Mengistu Samara University, Jigjiga University, Mekelle University, IHE Delft and others expressed their interest to pick up DVRPU and relating topics in their activities. Furthermore, an increase attention and investment to the dry lowlands represent a good opportunity for knowledge and education institutions to attract funding and resources targeting dry valley management – one of the most important topics on the funding and development agenda. Universities and TVETs are highly suitable to represent thinktanks on land and water management. In this regard, they can support with piloting, implementing and finetuning different measures under the DVRPU. While the facilities, labs and materials are often limited, there are existing materials that can be mobilized for research, education and training on DVRPU.

Educational institutionalization of the DVRPU approach bring about benefits beyond the interests of knowledge and education institutions. Efforts along this line will help to build the currently poor resource pool, especially human capitals, for implementing DVRPU. This process would also be instrumental to mainstreaming dry valley management and restoration into professional

expertise and day-to-day operation of practitioners, as well as into the policy and management domains. As such, meaningful participation and contribution of universities and TVETs into the upscaling process of DVRPU will be strengthened.

BARRIERS FOR UNIVERSITIES AND TVETS TO INTEGRATE THE DVRPU APPROACH

Effective institutionalization of the DVRPU approach at the universities and TVETs requires to overcome a number of important barriers. These barriers concern resources; a lack of thematic focus (content and also market-wise); and weak coordination with funding sources and with practitioner community. Regarding resources, a majority of the institutions have limited staffs, and the TVETs generally experience too high staff turnover for longer-term capacity improvement. As a result of traditionally focus on the highlands, knowledge and skilled staffs are rather limited when it comes to the emerging focus on the dry valleys and DVRPU thinking. Soft skills are reportedly identified as a weaker chain, requiring much stronger attention. Regarding the thematic focus, research and education coverage at universities, especially TVETs, suffer from a poor focus on lowland development. Topics like lowland agriculture, water spreading weirs and other water harvesting techniques in the dry valleys are still emerging and hardly any resource or material is available. The institutions are also struggling with getting a good assessment and understanding of the demand for knowledge and skills on dry lowland management. As a result, current research and education do not cater well to the demands from the labor market as well as from the knowledge gaps. Lastly, institutions need to connect better to the practitioner community, as well as the local communities in the dry lowlands. Several disconnections between the institutions with these communities are hampering the efforts in mobilizing and channeling funding

and resources to research and education, despite inherent needs for proper documentation, analysis and sharing of insights around the DVRPU. All in all, while the potential and benefits of educational institutionalization of the DVRPU approach are plenty and significant, implementation of this process needs careful attention and planning that take into account the above discussed limiting factors.



3. WHAT CAN WE DO TO INSTITUTIONALIZE THE DVRPU APPROACH INTO RESEARCH AND EDUCATION

Opportunities and concrete actions for educational institutionalization of the DVRPU are plenty and deserve dedicated resource and investments. Generally, the learning event identity four fronts for moving the process forward.

IMMEDIATE ACTIONS TO KICK OFF THE INSTITUTIONALIZATION PROCESS

The first group of actions entails those that can be implemented in the short term, requiring less upfront investment and preparation. Universities can quickly prepare and offer short courses and training sessions for government staffs, extension agents and other interested professionals. In case an entire new training or short course requires too much resource and preparation, adding new modules on DVRPU using existing materials onto existing ones are advisable. Additionally, on-job training could also be offered by both universities and TVETs. On-job training is much needed and therefore expected to be picked up quickly by interested professionals.

IDENTIFY AND ADDRESS THE CAPACITY GAPS

Long term actions for institutionalization generally require a boost in the

capacity and resources at the university and TVETs, given the fact that human and financial resources are often limited. These two important capacity gaps make it difficult to pick up the new topics surrounding DVRPU and integrate these into research and education. Quite often, adding new content and updating curriculum requires additional human resources – and mobilizing personnel with clearly specified mandates and responsibilities helps to make sure DVRPU oriented curriculum is actually institutionalized. Additionally, it is recommended that staff members receive training on the technicalities of DVRPU as well as on how to include the topic in their research and teaching activities.

Another long-term action concerns building up expertise and experience for staff members on doing research and teaching of dry valley management and DVRPU approach. In this sense, frequent refresher courses and creating higher-education opportunities e.g. postgraduate MSc or PhD studies for staff members at universities and TVETs are relevant.

Making optimal uses of the laboratories and experiment sites for DVRPU research and education is also important. Experience shows that while the number of labs are not the main issue, universities and TVETs struggle to keep them in full operation. This is due to lack of skilled lab moderators and materials needed for experiments and other operations. Field labs deserves more attention, and a suitable modality to promote them would be to co-invest or co-operate these labs with local communities, development projects and donors.

DEVELOP AND TAILOR CURRICULUM FOR RESEARCH AND EDUCATION

Curriculum development requires special attention, and will play a pivotal role in transferring, and upscaling DVRPU activities. It is recommended that immediate attention should be paid to integrating new content covering DVRPU approach into existing teaching curriculum. In the longer run,

universities and TVETs can consider developing new, specialized modules or courses on DVRPU. This work can start from the very basics of identifying key topics and deciding on how to design teaching/training materials to cover these topics. Identification of the topics are inherently critical and requires attention to not only the available knowledge base, but also the market demands. It is therefore recommended that universities and TVETs conduct market assessments with development partners and the ministries to identify specific needs and on-demand topics for their research, training and education activities. Ideally, the knowledge and skills offered by universities and TVETs should have good matches with the ongoing DVRPU practices implemented by projects, development agents, the ministries and local communities.

Alongside with curriculum development, resource mobilization especially finance and human capacity are important to make sure that newly develop curriculum is properly institutionalized and sustained. In this regard, it is recommended that fixed staff members are mobilized and assigned to research and education around DVRPU. This strategy, in combination with longer-term staff capacity development with MSc and PhD posts will help to systematically establish and develop DVRPU and relating topics into the knowledge and expertise base of the knowledge institutions.

ESTABLISH NEW AND STRENGTHEN EXISTING NETWORKS AND COLLABORATION FOR COORDINATED ACTION

The learning event points to a particular limitation of universities and TVETs, being a lack of cross-institution coordination and collaboration for research and education activities. Participants noted that this limited coordination and exchanges need to be addressed for the DVRPU to be upscaled and

integrated at scale. Coordination should focus on building a network of organizations for exchanges, mentorships and coordinated research and education initiatives. This would, amongst other benefits, help to build a knowledge and education community around DVRPU. At the national level, a national task force is recommended to facilitate and oversee the integration of dryland valley rehabilitation and development into research and education. At the level of individual network member, exchanges and joint efforts should focus on co-developing, sharing, and harmonizing knowledge and teaching materials, towards a standardized and high-quality resource bases for DVRPU and related approaches.



4. CONCLUSIONS:

EMPOWERING UNIVERSITIES AND TVETS TOWARDS THINKTANKS AND KNOWLEDGE PROVIDERS FOR DVRPU

Universities and TVETs have crucial strategic position as thinktanks and knowledge provider regarding the DVRPU approach. Improved capacity, stronger link to practices and cross-institution coordination are the focal areas for interventions to bring universities and TVETs up to this expectation – linking research, education to meaningful practices for land and water management in the dry valleys. Key to the educational institutionalization of the DVRPU approach is to design and implement a coordinated exchange and collaboration between universities, Technical and Vocational Education and Trainings (TVETs), development agents, local community and the government. The universities and TVETs shall play a central role in linking research and education to on-going dry valley management practices, through strong financial resources from the government and from the market-driven training and education activities themselves. Such a positioning and working modality will strengthen added values for knowledge institutions, as well as benefiting the overall objective of sustainable dry valley management based on the DVRPU and related approaches.



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