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Pathways to resilience
in semi-arid economies

Value Chain Analysis for Resilience in Drylands (VC-ARID): identification of adaptation options in key sectors

Reflections on VC-ARID
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Research for climate-resilient futures



CARIAA
Collaborative Adaptation Research
Initiative in Africa and Asia



International Development Research Centre
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Reflections on VC-ARID

VC-ARID has been received by stakeholders at national and international levels as an innovative approach to considering adaptation. The integrated approach providing adaptation solutions at the sectoral/value chain level is innovative in a context where adaptation activities are often not anchored in a systemic approach and as such can lead to maladaptation.

The focus of VC-ARID methodology on specific characteristics of SALs has revealed important dynamics:

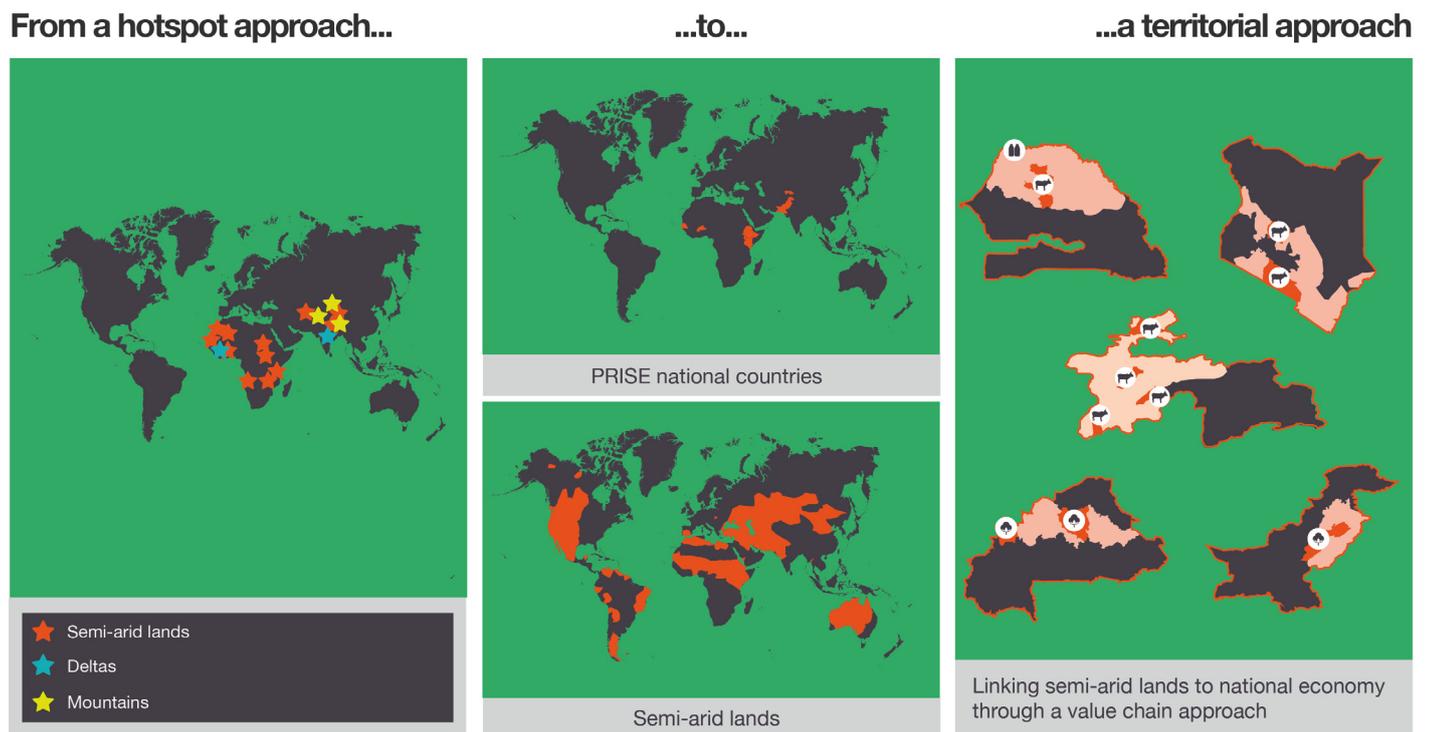


Production in semi-arid lands

The semi-arid lands ‘hotspot’ focus of VC-ARID allowed research teams and stakeholders to focus on marginal areas, which would not otherwise be chosen as research priorities because they are typically viewed as less important areas for production. Most development analysis traditionally takes a sectoral approach, but by starting with a hotspot approach it was possible to take particular sectors and blend this with a territorial approach that takes into account the specific characteristics of semi-arid lands. This has enabled a cross-sectoral overview, which is essential for climate-resilient economic development.

The VC-ARID approach combines the hotspots and territorial approaches with a sectoral focus (see Figure 1). Thus VC-ARID ensures an analysis that is tailored to the context, not only resulting in more appropriate options for climate-resilient economic development but also in building trust and shifting narratives with stakeholders. Part of this shift has been the recognition that production in semi-arid lands can be the basis of viable businesses with private sector investment, where they have previously been viewed only as vulnerable subsistence livelihood activities.

Figure 1. VC-ARID from a hotspots to a territorial approach



The Collaborative Adaptation Research in Africa and Asia (CARIAA) framework: Identification of climate change ‘hotspots’, where strong climate signal and high concentrations of vulnerable people are present.

These hotspots include semi-arid regions and deltas of Africa and Asia, and glacier- and snowpack-dependent river basins of South Asia.

Source: Authors

(Map disclaimer: All maps are produced by the authors, using data extracted from the GADM database (www.gadm.org), version 3.4, April 2018. The boundaries shown and the designations used on the maps in this report do not imply the expression of any opinion on the part of the authors, PRISE or the Overseas Development Institute concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries)

PRISE aims to strengthen the commitment of decision-makers in local and national governments, business and trade bodies to rapid, inclusive and resilient development in semi-arid regions.

VC-ARID is an innovative and interdisciplinary approach to value chain analysis in that it takes into account the specific characteristics of semi-arid systems.

Key to the approach is the recognition that, in semi-arid lands, ecological and socioeconomic variability represent key structural differences when compared with other production systems.



Climate risk

The particular focus on identifying climate risks at each step of the value chain, as well as across the sector overall, has allowed us to distinguish between coping, adaptive and maladaptive responses. It has also allowed us to test perceptions of climate change versus observations and to distinguish between private and planned adaptation options.



Seasonality

Beyond long-term climate change and extremes, exploring volatility and constraints for production, trading and markets between seasons in a normal year has allowed us to identify opportunities that can smooth supply and demand, and therefore prices, for example the fattening of livestock during lean months to increase overall quality.



Gender

In value chains where roles for women and youth initially appear to be limited, risks and opportunities can be hard to understand. Focusing specifically on gender in exploring the value chain actors, adaptation responses and opportunities, has revealed not only that inequalities exist in terms of rights and financial inclusion, but where adaptive capacity can already be harnessed. For example in the Kenya beef value chain, actors tend to be predominantly male, with livestock ownership by women at less than 4%. However, the gender-sensitive methodology revealed that joint ownership is the most common form (65%) and care of animals is almost 50:50 between women and men. While in just over half of cases men control the income from sales, these dynamics are important to understand as banking of livestock assets is one of the most important private adaptation decisions in case of shocks and stresses. Furthermore, the surveys show that producer households experience a mix of idiosyncratic and covariate shocks, which when experienced together increase vulnerabilities. Women are key to dealing with idiosyncratic, household-level shocks. So while women may not be visible in the value chain, their decision-making plays a role and can be harnessed in terms of sectoral transformation.



Informality

The flexibility provided by informal systems and processes is key to managing climate-related and other risks in SALs. For example, mobility (inputs or people), labour (employment or alternative activities) and capital (ability to draw on assets through access to markets) all play important roles in people's responses to shocks and stresses and decisions to adapt.

Unprecedented opportunities for comparison and insight

The VC-ARID methodology can be applied to any value chain where climate change should be considered and particularly those rooted in arid and semi-arid lands or other climate change hotspots. VC-ARID has been replicated by seven research teams in five countries, offering unprecedented opportunities for comparison between semi-arid regions of the world and providing significant insights on appropriate methodological approaches for analysing these systems, as well as ways to harness them for private sector investment through appropriate risk management. These findings have contributed to an emerging paradigm about semi-arid lands that is framed more around development opportunities and adaptation than poverty, vulnerability and household resilience.

A method for analysis and engagement across scales that is necessary for climate-resilient economic development

The VC-ARID methodology has enabled stakeholder engagement across multiple scales, incorporating a wide range of actors that do not typically coordinate around climate and development action. Decentralised institutions and national sector representatives have had the opportunity to exchange experiences on adaptation in their respective countries. Because of the comparability of the approach, VC-ARID has also provided the opportunity of regional/cross-scale exchanges. The interactions of private and public actors in these sectors across the regions confirmed the importance of coordinated action across national governments and decentralised/devolved bodies, but also the necessity to align action with regional policies. Coordination is especially important around issues of natural resource management, trade (for instance the free movement of goods and people) and crisis management (for instance food security/human security) where many institutions are responsible.

Finally, it is important to stress the central objective of VC-ARID to define and promote investments supporting economic development that is both resilient to climate change and inclusive. VC-ARID is anchored in a context of sectoral, territorial or national economic development. It places the analysis at different scales than poverty reduction or resilience-building efforts, which focus on individuals or households as the units of analysis. While VC-ARID strives to advance the socioeconomic development of individuals and private actors, it is designed to support a more comprehensive adaptation process making a clear distinction between options that promote subsistence at the household level and those that drive economic development at the sectoral and territorial levels. The case of livelihood diversification versus value chain transformation for providing income is an example where the two approaches can lead to very different and contradictory results.

An appropriate tool for targeting socioeconomic development investments that is equitable and climate-resilient

Because VC-ARID recognises different scales of analysis relevant to socioeconomic development (household, territorial, sectoral and national), it can provide a tool for decision-making. VC-ARID can be used by private actors (for example individuals, SMEs, producer organisations) but also by local authorities, which are seeing a trend towards decentralisation and devolution in SALs, and national governments. The combination of sectoral analysis with a territorial approach makes VC-ARID a specific and tailored tool but also a method that can be applied in other contexts where these factors are important to socioeconomic development and transformation.

In this sense, VC-ARID can also be used to design robust and efficient targeting for adaptation investments and programming. Indeed, as the method allows targeting at several levels, it can address one of the main challenges of current adaptation programmes: working across different scales.

The complex balance that climate and development planners face is the implementation of interventions that are specific to the local context while maintaining the potential for comparison to prioritise investments, benchmark the approach or assess results, and for scaling up and out of interventions. VC-ARID has demonstrated that it can be a method for effective adaptation measurement and can thus support prioritisation and evaluation of adaptation projects and investments.¹

At the same time, the flexibility of VC-ARID allows it to be adapted and tailored to the areas and sectors for which it is applied. It has also been demonstrated that the key to achieving these dual objectives is the inclusion in the methodology of iterative engagement with stakeholders on several scales.

¹ VC-ARID's characteristics for adaptation planning have been recognised by participants of the Adaptation Metrics conference on 27 September 2016. An outcome of the conference in Morocco was an official submission of the Kingdom of Morocco at the UNFCCC conference, highlighting the importance of a value chain approach in the context of adaptation metrics: <https://unfccc.int/resource/docs/2016/apa/eng/inf02a01.pdf>.