



ICRISAT



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Dryland Development Pathways



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The comment is frequently heard that “technologies are available, what’s needed is to get them off the shelf and into use.” But will the products really sell?

It is more than just a matter of pushing the goods off the shelf and out the door. They need to be designed and deployed with a context in mind, and in consultation with prospective users to meet their needs.

Rather than viewing them as products on a shelf, we find it important and useful to consider how they will enable and motivate the poor to move along ‘development pathways’ that lead to increasing prosperity, food security, equity and sustainability.

Where are we headed?

As human populations increase, a number of different development pathways could unfold. People might fight over increasingly scarce natural resources and not replace those that are removed, spiraling downward into ever-greater poverty. Or, they could invest in their lands, increasing their production efficiency, incomes and total output, meeting the needs of ever-larger populations.

Both scenarios have been observed in different situations. The research-for-development community has a major role to play in steering development towards the second type of pathway. Such pathways need to have the following characteristics.

Enhance the natural resource base.

Unreliable rainfall and nutrient-poor soils are hallmarks of the dry tropics. Without addressing these issues, sustained productivity gains are unlikely. For example, the impacts of improved crop varieties have often fallen short of expectations because these aspects were overlooked or assumed to be ‘somebody else’s problem’. A development pathways perspective compels us to keep them in mind.

Consider the circumstances.

Possibilities will be greatly influenced by enabling elements in the environment such as policy, governance, infrastructure, services, institutions, education, health care and others. A development pathways perspective considers how prospective steps along the path will be influenced by these elements. For example, if grain prices are kept artificially low by cheap subsidized imports, and fertilizer prices high due to transport and border costs, then high-input cereal cropping may not be a practical step until such constraints can be overcome.

Increase incomes.

Even the most effective interventions will not have impact if they are not used. Profitable technologies strongly motivate uptake by poor farmers, as long as the enabling conditions are in place such as affordability, access, and know-how. Profits enable farmers to invest in the next step in the development pathway.

Connect to markets.

Markets are the source of the profits that motivate progress along development pathways. Without growing markets, the adoption of more productive practices simply creates produce that cannot be sold at a remunerative price, leaving farmers worse off than before. A development pathway perspective requires that we carefully consider how the increased output of goods and services will be translated into hard cash.



Value-added uses for traditional crops, such as sorghum stalks for bioethanol, build on existing farm skills, increase livelihood options and connect the poor to income-boosting markets.



Drought derails progress along development pathways, inhibiting farmers from making future investments.

Manage risks.

Drought, and marketing uncertainty (prices) are two main risks in the dry tropics. As they increase their investments to respond to market opportunities, farmers may be taking on more risk. A debilitating drought can wipe out years of progress, pushing them back to square one on their development pathway. A range of strategies have been devised to help manage these risks, including diversification, water harvesting, weather forecasting, crop insurance, inventory-credit associations, and others (e.g. see previous 'What ICRISAT Thinks' on [drought](#) and on [microdosing](#)).

Diversify.

Diversification helps spread risk and increase incomes. A wide range of crops can be grown in the sunny, moderate climates of the dry tropics, if drought risk can be managed. Many of these are high-value crops with strong market potential. Diversification thinking can go beyond crops and agriculture to include off-farm enterprises that are less vulnerable to drought.

Innovate.

A degree of despondency often accompanies development thinking about the dry tropics. Assumptions that little can be done need to be challenged. Many of the richest agricultural areas in the world are in dry areas (e.g. California, France). Dryland farmers in the developing world continuously innovate to capture new opportunities. A development pathway perspective should for example consider how these areas might progress towards irrigation development, which can fundamentally transform what is possible.

Customize and adapt.

There is no single 'one-size-fits-all' development pathway to be handed out to the inhabitants of the dry tropics. Conditions differ enormously. In some rangeland settings, extensification makes more sense than intensification. If markets cannot be accessed, the pathway needs to focus on food security and self-sufficiency. Within-season, farmers need to adapt to changing weather patterns and markets. Rather than prescriptive recipes or technologies taken off the shelf, the research-for-development community needs to provide prototypes, principles, and knowledge that local communities can choose from, customize and adapt to local trends and circumstances.

Steady and sustained.

Development pathways thinking can get us away from the 'quick-fix' mentality that is better suited to short-term project organization, than to long-term sustainable development. Development pathways thinking recognizes that in order to step into the future, one foot has to first be firmly grounded in the present. Farmers are pragmatic; they will first test a new intervention on a small part of their land, gradually expanding only if and when it proves its mettle. This safeguards them against the 'boom-and-bust' calamities that have too often resulted from pressures for quick fixes.



"Gum Arabic" sap globules are a fine-quality organic emulsifying agent. Traditionally collected from the wild by the poor, *Acacia senegal* trees are being domesticated for community plantation culture, a development pathway that can substantially boost incomes if accompanied by quality assurance protocols and strong marketing.

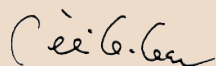
A development pathway begins with a single step

Confucius famously said that ‘a journey of a thousand miles begins with a single step’. Before taking that step, though travelers need to know where they are headed, and what they need to carry to reach their destination. We in the research-for-development community can better assist them in this planning by adopting a development pathways perspective.

We need to plan how one step forward will enable the next step, and how the obstacles ahead will be cleared. We need to consider what is necessary for a safe journey that reaches the desired destination of sustainable prosperity and security.

Research-for-development institutions thus have key roles to play in the march along dryland development pathways. As we walk alongside the poor, we find ourselves inspired by their optimism, ingenuity and adaptability.

Sincerely yours,



William D. Dar
Director General



About ICRISAT

The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) is a non-profit, non-political organization that does innovative agricultural research and capacity building for sustainable development with a wide array of partners across the globe. ICRISAT's mission is to help empower 600 million poor people to overcome hunger, poverty and a degraded environment in the dry tropics through better agriculture. ICRISAT is one of the 15 Centers under the aegis of the Consultative Group on International Agricultural Research (CGIAR).

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