

76. FARMER MANAGED NATURAL REGENERATION (FMNR)

ACTION AREA	CLIMATE RESILIENT DEVELOPMENT PATHWAYS
SOLUTION CLUSTER	CLIMATE ADAPTATION, MITIGATION & RESILIENCE
THEMATIC AREA	INNOVATION ON CLIMATE MITIGATION
SUBMITTED BY	WORLD VISION, GLOBAL EVERGREEN ALLIANCE

WHAT IS THE RISK, SHOCK, STRESS THAT THE SOLUTION IS TRYING TO ADDRESS?

climate and land degradation events (drought, flood, severe storms, low soil fertility..)

HOW DOES THE SOLUTION IMPROVE OR ENHANCE RESILIENCE OF FOOD SYSTEMS?

Farmer Managed Natural Regeneration (FMNR) increases communities ability to adapt to climate change while mitigating against it. By restoring a measure of tree cover across landscapes, FMNR increases soil fertility, reduces temperatures, wind speeds and evaporation, increases water infiltration into the soil and moisture retention. These effects increase crop yield and livestock productivity and reduce the negative impact of shocks such as drought and excessive rainfall. FMNR increases biodiversity enabling land users to diversify their outputs and income streams. Farmers producing and earning more have greater capacity to store more food in reserve, or draw on financial reserves in times of food scarcity, thus increasing resilience. Greater biodiversity also results in greater diversity of foods being available for longer periods of time, and reduced likelihood of total crop failure due to shocks such as drought or insect attack. Greater biodiversity also enhances ecosystem services and can result in increased pollination and greater protection against pests. This reduces reliance on a typically narrow range of annual crops. A side benefit of FMNR is the reduction of risk in farming which stimulates farmers to take healthy risks and invest in improvements to their farming enterprise. Crops and livestock are vulnerable to temperature rises. a 1 degree C increase in temperature above 30 C can result in a 10% decrease in crop yield for the worlds major food plants, yet, just 15% shade from dispersed trees on farmland can increase crop yields by about 50 to 70%. Measurements in Mali at midday found that tree shade brought down air temperature approximately 10 0C and soil temperature by 35 0C.

IS THE SOLUTION RELEVANT TO BUILDING FOOD SYSTEMS RESILIENCE?

Anticipate shocks/risks/stress and/or reduce vulnerability, Manage risks, Prevent (reduce exposure), Absorb, respond/cope, Adapt to shock-affected scenarios and evolving risk scenarios, Transform the Food System when the current Food System is no longer sustainable

IN WHAT REALMS OF INTERVENTION IS THE SOLUTION DESIGNED TO ACT ON RESILIENCE?

Individual, Household, Community

WHO ARE THE MAIN ACTORS THAT WOULD PUT THIS ACTION INTO PLACE?

Policymakers (government), Civil (NGOs, etc.), Farmers, Scientists, Indigenous groups

WHAT IS THE POLITICAL SUPPORT FOR THIS IDEA? DOES THE IDEA HAVE ANY MEMBER STATES OR POLITICAL INTERESTS? ARE THERE ANY STAKEHOLDERS WORKING ON IT?

FMNR is recognized and endorsed by the UNCCD, FAO, UN SDG platform, World Economic Forum trillion tree program, ICRAF, World Vision, Global Evergreening Alliance, World Resources Institute, World Future Council and the Right Livelihood Foundation. In July 2020, the Republic of Niger became "one of the first countries globally to adopt a presidential decree regulating & promoting the practice of a revolutionary agricultural technology known as farmer-managed natural regeneration". FMNR is acknowledged by the Government of Ethiopia and Malawi & is included in regreening programs. The main stakeholders promoting & implementing FMNR interventions globally are World Vision & the Global Evergreening Alliance.

IS THE SOLUTION APPLICABLE AT GLOBAL LEVEL, OR SPECIFIC CONTEXTS & PARTICULAR COUNTRIES?

The principles of FMNR are widely applicable across varying environments (arid, semi arid, humid, highland, tropical, riparian, coastal) and in wealthy as well as poor countries. In practice, greatest interest and uptake has been in Africa, and within Africa in the arid and semi-arid zones, especially in the Sahel but also Ethiopia, Somalia, Kenya, Uganda, Tanzania, Malawi, Zambia and Zimbabwe.

WHAT ARE THE KEY ACTIONS REQUIRED TO ADDRESS THIS SOLUTION?

1. mindset change. Stakeholders need to adopt an attitude of working with and learning from nature as opposed to exploiting and destroying it.
2. Enabling policy environment in which land users have ownership of land and trees, or as a minimum, legally binding user rights
3. Awareness creation and capacity building
4. Formation or strengthening of social groups (farmers clubs, cooperatives, savings and loans groups etc.) in which individuals can pool knowledge and support each other in implementing FMNR
5. Creation of by-laws by stakeholders giving a framework for FMNR implementation and utilization, including a mechanism for dealing with non-compliance
6. Capacity to deal with threats (typically - wild fire, roaming livestock, and theft of woody biomass)

ARE THERE ANY FINANCIAL SOURCES / FUNDS THAT IS SUPPORTING THIS IDEA?

Numerous funded projects exist and there is increasing interest on the part of donors and those wishing to offset emissions. Once FMNR is introduced as a practice, even poor land users are able to continue implementing FMNR without external input.

HOW DOES THIS SOLUTION CONTRIBUTE TO (A) EMPOWER WOMEN AND COMBAT GENDER INEQUALITIES, AND (B) THE FULFILMENT OF HUMAN RIGHTS, ESPECIALLY THE RIGHT TO FOOD AND THE RIGHT TO WATER, (C) MAKE USE OF INNOVATIONS (TECHNOLOGIES, INSTITUTIONS, PROCESSES)?

a) **Gender.** Well designed FMNR project are inclusive of women and vulnerable groups. Women are empowered when given a voice in decision making, through leadership and through benefiting from the proceeds of FMNR (whether increased fuel wood, fodder, wild fruits, increased water supply....). Their burden (fuelwood and water collection) can be greatly reduced and their standing in society enhanced.

b) **Human rights** - FMNR programs strive to engage all stakeholders and especially those whose livelihoods depend on the land and its associated natural resources. FMNR is farmer, community, forest dweller, or pastoralist managed depending on the context and hence these key stakeholders determine how, where and when FMNR will be implemented and how the benefits are distributed. c) FMNR is not technology dependent and this is one of the reasons for its great success e.g. In a twenty year period, the area under FMNR in Niger Republic increased from zero to five million hectares, restoring an estimated 200 million trees into the landscape and this movement was farmer led. However, FMNR is not technology averse and can certainly benefit from, in particular remote tracking of progress.