

NKRA 8: Water, Food and Nutrition Security (Water Security)

Lead Agency : National Environment Commission Secretariat

Collaborating Agencies: Ministry of Agriculture and Forests, Ministry of Economic Affairs, Ministry of Health, Ministry of Works and Human Settlement, National Center for hydrology and Meterology and Local Government

AKRAs	Key Performance Indicators	Description	Unit	Baseline (Year)	Baseline	Target	Data Collection Methodology	Data Source	Data Collection Frequency	Responsible Agency
1. Enhanced Management of Natural Resources for sustainable utilisation of ecosystem goods and services	Area brought under effective watershed management	This indicator measures the total area under sustainable watershed management. The total area covered in the watershed management planning in the 11FYP along with new areas will be taken up for watershed management.	Acres	2015	306,673	1,588,621	Field collection	FIMS	Annually	MOAF
	Conservation and Management of wetlands ecosystem	This indicator measures the number of wetlands (RAMSAR/nationally significant wetland) brought under management	Acres	2015	1278	2556	Field collection	Administrative data, DOFPS/FIMS	Annually	MOAF
2. Hydropower Security ensured	Total firm energy generation	The indicator measures the firm energy available from all the hydropower plants during lean season	Million Units	2016	362.43	513.07	Plants' generation records	DGPC/ DHPS data	Annually	DHPS, MOEA
	Hydropower efficiency (weighted average annual plant load factor and water utilization factor)	The indicator measures the percentage of water that has been utilized to generate electricity from the available water during the year	Percentage	2016	99.9	>99.9	Plants' water utilization records	DGPC & DHPC Annual Compacts	Annually	DHPS, MOEA
3. Drinking water supply improved	Urban population having access to adequate water supply	The indicator measure the total urban population who have access to adequate (available when needed) water supply through development of new water infrastructure and implementation of climate resilience measures such as securing water sources.resilience measures such as securing water sources.	Percentage	2017	TBD	TBD	Administrative data	Reports/ WASIS	Annually	MOWHS
	Rural households with access to safe drinking water supply	The indicator measures the percentage of rural households using improved drinking water sources which are located on premises, with water available when needed, and free from contamination as per the BDWQS	Percentage	2016	81	90	Administrative data	Annual Report	Annually	DOPH, MOH
	O & M expenditure of water supply met from water tariff	The indicator measures the percentage of operation and maintenance cost of water supply in thromdes met through reduction of non-Revenue Water, improve demand management, regulation of tariff, exploring alternative financing models, etc	Percentage	2016	NA	100	Administrative data	Reports/ WASIS	Annually	MOWHS
	Urban population having safe water supply	The indicator measures the total urban population having access to safely managed water	Percentage	2017	TBD	TBD	Administrative data	Reports/ WASIS	Annually	MOWHS
4. Water quality improved	Maintain water quality within the environment standard	Comprehensive and regular water quality monitoring will be carried out for required parameters based on environment standard in all 20 dzongkhags.	Number	2017	1	20	Field and lab analysis	NCHM/NEC	Biannually	NECS
	Sediment loads of major river basins generated	The indicator will measure sediment loads of the major river basins for monitoring and data collection to better understand the watershed and water quality.	Number	2016	15	20	Technical report, Field and lab analysis	NCHM	Annual	NCHM

5. Access to hydrological information and understanding of national water availability improved	Mean annual flow of main river basins generated	The indicator will assess water availability (water resources, glacier contribution of river flow) of main rivers: Amochu, Wangchhu, Punatsangchhu and Mangdechhu, Chamkharchhu) for generation of river flow information for dissemination of other users.	Number	2016	0	4	Technical report and Models operational in selected river basins	NCHM	Annual	NCHM
	Assess water availability of surface and ground water	The indicator will assess water availability of ground and surface at community level	Number	2017	0	20	Detail technical study	NECS/DGM/NCHM	Annual	NECS

NKRA 8: Water, Food and Nutrition Security Ensured (Food and Nutrition Security)

Lead Agency: Ministry of Agriculture and Forests

Collaborating Agencies: Ministry of Health, Ministry of Education and Local Governments

AKRA	Key Performance Indicators	Description	Units	Base (Year)	Baseline	Target	Data Collection Methodology	Data Source	Data Collection Frequency	Responsible Agency
1. National Food Self-sufficiency Enhanced	Rice self-sufficiency	The indicator measures the volume of rice produced in the country as a proportion of requirement for national consumption	Percentage	Avg. (2013-'15)	45	60	Survey	SSR Report, MoAF	Annual	MoAF
	Maize self-sufficiency	The indicator measures the volume of maize produced in the country as a proportion of requirement for national consumption	Percentage	Avg. (2013-'15)	84	92	Survey	SSR Report, MoAF	Annual	MoAF
	Meat self-sufficiency	The indicator measures the volume of meat (pork, fish, chicken, chevon) produced in the country as a proportion of requirement for national consumption	Percentage	2015	35	47	Census	SSR Report, MoAF	Annual	MoAF
	Egg self-sufficiency	The indicator measures the quantity of eggs produced in the country as proportion of requirement for national consumption	Percentage	2015	100	100	Census	SSR Report, MoAF	Annual	MoAF
	Dairy products self-sufficiency	The indicator measures the volume of dairy products (milk, butter, cheese) produced in the country as a proportion of requirement for national consumption	Percentage	2015	76	88	Census	SSR Report, MoAF	Annual	MoAF
	Vegetable self-sufficiency	The indicator measures the volume of vegetables (13 different vegetables identified) produced in the country as a proportion of requirements for national consumption	Percentage	Avg. (2013-'15)	82	100	Survey	SSR Report, MoAF	Annual	MoAF
	Fruit production	The indicator measures the annual production of major fruits (Mandarin and apple)	MT	Avg. (2013-'15)	54325	74479	Survey	Agri. Statistics	Annual	MoAF

Area under assured irrigation	The indicator measures the total area of <i>Chhuzhing</i> under assured irrigation with perennial water source (reliable water source, intake and stable irrigation channels and an irrigable command area)	Acre	2015	39163	48350	Survey	Agri. Statistics	Annual	MoAF	
Fallow-land brought under cultivation	The indicator measures the total area of <i>fallow-Chhuzhing</i> (Wet-land) brought back to cultivation	Acres	2015	n/a	5339	Survey	Agri. Statistics	Annual	MoAF	
National Biosecurity index	The indicator measures the aggregated score of different bio-security measures implemented (Exotic pests and diseases, endemic pest, farm-bio-security, LMOs/GMOs and evasive alien species)	Percentage	2017	n/a	≥80	Field data collection	BAFRA bio-security report	3 years	MoAF	
National food safety index	The indicator measures the aggregated score of different food safety measures implemented (food safety compliance, control/management of unsafe food)	Percentage	2017	n/a	≥80	Field data collection	BAFRA Food safety index report	3 year s	MoAF	
Native crop/domestic animal species conserved and utilized	The indicator measures the number of native crop/animal species (Minor cereals, native poultry -Bja Belochen, Bja Nam, Native Pigs, Nublang Cattle, Native sheep and Horse), which has cultural significance and adds value to food security	Number	2015	2	7	Field data collection	Administrative data	Annual	MoAF	
2. Nutritional Status of general population improved	Stunting (Height for Age)	The indicator measures the percentage of children < 5 years that don't meet the height for age growth standards. According to WHO, Stunting is for the "height for age" value to be less than two standard deviations of the WHO Child Growth Standards median	Percentage	2015	21.2	15.14	Survey/Administrative/HMIS	NNS, MoH	Annual	MoH
	Childhood wasting	The indicator measures the percentage of children < 5 years that don't meet the weight for height growth standards. According to WHO, wasting is for the "weight for height" value to be less than two standard deviations of the WHO Child Growth Standards median	Percentage	2015	4.3	4.3	Survey/Administrative/HMIS	NNS, MoH	Annual	MoH

6. Organic Farming for Sustainable Development Enhanced	Area under organic management	The indicator measures the total area under organic management (Agriculture, Forestry-lemon grass)	Acres	2015	23530	33655	Field data collection	Administrative Data/Report, NoP	Annual	MoAF
	Certified organic products developed	The indicator measures the number of RNR products (Buckwheat, quinoa, egg product, gouda cheese, fish, asparagus, mushroom, honey, NWFPs: Pipla, bamboo shoot, matsutaki, cherata, amla) certified as organic for domestic and international markets	Number	2015	4	17	Field data collection	Administrative Data/Report, NoP	Annual	MoAF
	Household income from the sale of organic products	The indicator measures the average annual income generated through the sale of certified organic products	Nu. Mil	2015	n/a	TBD	Field data collection	Administrative Data/Report, NoP	Annual	MoAF
7. RNR Research Strengthened	Policy research on RNR sector conducted	The indicator measures the number of RNR related policy research conducted to provide policy recommendations.	Number	2015	n/a	3	Survey, field data collection	Research report/annual report	Annual	MoAF
	RNR technologies adopted	The indicator measures the number of RNR technologies that has been generated and adopted by farmers to improve productivity and production of RNR commodities (technologies includes crop varieties, livestock/crop management practices)	Number	2015	n/a	10	Field data collection	Report/administrative data	Annual	MoAF
	RNR Research conducted	The indicator measures the number of RNR related research conducted	Number	2015	n/a	10	Field data collection	Report/administrative data	Annual	MoAF