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DESFIL
Development Strategies for Fragile Lands

INVENTORY OF LAND USE MANAGEMENT PRACTICES
A Discussion Paper

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ACRONYMS

AF	Agroforestry
ANRO	Agriculture and Natural Resources Office
API	Assessment of Program Impact
CBA	Cost-Benefit Analysis
CFA	Communaute Financiere Africaine
CIMMYT	Centro Internacional de Mejoramiento de Maiz y Trigo
CR	Communaute Rurale
DESFIL	Development Strategies for Fragile Lands Project
FAO	Food and Agriculture Organization
GIS	Geographic Information System
IARC	International Agricultural Research Center
ICRAF	International Center for Research in Agroforestry
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IFAD	International Fund for Agricultural Development
IITA	International Institute for Tropical Agriculture
IMF	International Monetary Fund
KAP	Knowledge, Attitudes and Practices Survey
LOP	Life of Project
LUMP	Land-Use Management Practice
M&E	Monitoring and Evaluation
NGO	Nongovernmental Organization
NPA	Non-Project Assistance
NRM	Natural Resources Management
ORSTOM	Office de la Recherche Scientifique et Technique d'Outre-Mer
OTA	Office of Technology Assessment
PAM	Policy Analysis Matrix
POL/CDIE	Political/Center for Development Information and Evaluation
PRA	Participatory Rural Appraisal
PVO	Private Voluntary Organization
SFE	Soil Fertility Enhancement
SSA	Sub-Saharan Africa
SWC	Soil and Water Conservation
USAID	U.S. Agency for International Development

INVENTORY OF LAND USE MANAGEMENT PRACTICES

This is an illustrative example of how I structured the inventory of NRM practices. I have started with the practices (and the variable codes) from the KAP surveys, which the Agriculture and Natural Resources Office (ANRO) of USAID/Senegal is monitoring in the five regions. This will make it possible to integrate the information on those practices (disaggregated by gender) that are gleaned from our analysis of the KAP data in the NRM database structured according to the NRM analytical framework.

I also incorporated all of the information on the NRM practices in the report entitled "Inventaire des technologies basées sur la gestion des ressources naturelles et utilisées dans la production des céréales." The coding of these practices follows the methodology established by Rod Kite (1993), which is used in his ZTAB program to analyze the KAP I data. This will allow Missions to integrate new data from other surveys into the database as it is gathered. An example of the coding is the following:

1000 Agroforestry - the practices coded in the 1000 series are related to agroforestry technologies

1100 _TREE = field trees

1101 _SPECIES = Species of trees/shrubs used

Following the methodology developed by Rod Kite, data would be entered into fields according to the following format:

K_TREE	do they know about the practice
WL_TREE	where did they learn about the practice
WU_TREE	why the practice is used
WN_TREE	why the practice is not used
etc.	

The database will use the locator ID coding system of the Census Bureau to allow geo-referencing the data for use by GIS. For each practice, fields will be coded for the reasons used, and the constraints and incentives associated with the use/nonuse of the practices that represent the perceptions of the respondents.

The intention of this activity is to propose to "data collectors" that we all focus on critical variables associated with the use/nonuse of NRM practices and conditions associated with land use management decisions. In order for the databases to be relational, the databases need to be structurally similar and use similar codes for practices and parameters (critical variables/conditions).

INVENTORY OF PRACTICES

I. AGROFORESTRY (AF) SYSTEMS

Identification codes and definitions of practices

1000 Agroforestry

1100 _TREE = field trees (arbres en plein champs)

1200 _WIND = border trees/windbreaks (bordures du champs/brise-vents)

1300 _ORCH = orchard trees (plantation/verger)

1400 _LIVE = live fences (haie-vive, piquetage vert)

1500 _RECLAM = reclamation of degraded land (régénération des terres)

1510 RECLAM1 = reforestation (reboisement des terres)

1520 RECLAM2 = revegetation (revégétation)

1600 _WOODLOT = tree plantations (mise en défens, reboisement, bois de village, bois communautaire)

1700 _REFOREST = rehabilitate degraded forests (enrichissement des forêts)

1800 _ALY = alley cropping w/perennial leguminous shrubs and/or trees (culture en bandes)

II. SOIL AND WATER CONSERVATION (SWC) SYSTEMS

Identification codes and definitions of practices

2000 Biological contour barriers

2100 _GRAS = grass strips (e.g., *Panicum maximum, Andropogon gayanus*) (bandes en herbées)

2110 _GRAS1 = grass dikes (végétalisation des diguettes)

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3000 Conservation tillage

3100	_PLOW =	fall plowing (labour après récolte)
3200	_CHEC =	check dams (barrages de contrôle)
3300	_DIVR =	water diversion dams (digues suivant les courbes de niveau)
3400	_DIKE =	contour dikes (digues de dérivation)
3410	_DIKE1 =	rock dikes (cordons pierreux)
3420	_DIKE2 =	water retention dikes (digue de retenue des eaux de pluie)
3500	_TIED =	tied ridges (billonage cloissoné)
3600	_SALT =	anti-salt dams (barrages anti-sel)
3700	_DRYPLOW =	plowing with animal traction before rainy season (le travail du sol à la dent en sec en traction bovine)
3800	_CONTOUR =	contour plowing (labour suivant les courbes de niveaux)
3900	_FLATPLOW =	simple plowing without ridges (labour à plat)

4000 Cropping systems

4100	_SEED =	improved seed/varieties (semence améliorée)
4200	_CHEM =	pesticides (produits phytosanitaires)
4300	_HAND =	manual weeding (desherbage manuel)
4400	_MECH =	mechanical weeding (desherbage méchanique)
4500	_THIN =	thinning number of plants per stand (démariage)
4600	_SEMOIR =	mechanical seeding (semis au semoir)
4700	_POCKET =	seeding into individual pockets (semis en poquet)

4800 _PREPLOW = plowing prior to planting (labour avant semis)

4900 _GARDEN = home gardens (maraîchage, cultures maraîchères)

5000 Improved practices

5100 _ROTA = crop rotation (rotation des cultures)

5200 _FALLOW = fallows planted with forage plant species (banque fourragère)

5210 _FALLOW1 = community rangeland (gestion communautaire de l'espace pastoral)

5220 _FALLOW2 = storage of forage production for dry season fodder (réserves fourragères)

5300 _BURN = savannah management systems (pare-feu)

5310 _BURN1 = tree-lined firebreaks (pare-feu vert)

5320 _BURN2 = plowed fire alleys (pare-feu nu)

5330 _BURN3 = controlled early burnings (feux précosse, feux controlés)

5400 _STOVE = improved wood burning stoves (foyer amélioré)

5500 _KILN = improved charcoal kilns (Meule Casamançaise)

III. SOIL FERTILITY ENHANCEMENT (SFE) SYSTEMS

Identification codes and definition of practices

6000 Residue (mulch) management

6100 _PARK = manure (fumier/parcage)

6110 _PARK1 = incorporate soil from *Acacia albida* parks into field (épandage de terre de la rhizosphère des parcs à *Acacia albida*)

6200 _FALO = fallow (terres/champs en jachère)

6300 _COMP = compost (compostage)

6310 _COMP1 = below-ground pits (compostage en caisson, fosse fumières)

6320 _COMP2 = above-ground piles (compostage en meule)

6400 _ETABL = staked animals for manure/compost (étables fumières, écuries)

6500 _HOUSE = household residues (épandage des ordures ménagères)

6600 _RESIDU = mulch crop residues (épandage des résidus)

6610 _RESIDU1 = mulch rice residues (épandage de coque de riz)

6700 _ASHES = incorporate ashes into soil (utilisation des cendres comme fumure organique)

7000 Chemical inputs

7100 _FERT = fertilizer (engrais chimique)

7200 _HERB = herbicides