DRAFT INDICATORS and RECOMMENDATIONS for MONITORING and EVALUATION for the REGIONAL AGRO-HYDRO-METEOROLOGICAL CENTER (AGRHYMET)

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LIST of ACRONYMS

ACMAD	African Center of Meteorological Applications for Development
AGRHYMET	Regional Agro-Hydro-Meteorological Center
CILSS	Permanent Inter-States Committee for Drought Control in the Sahel
CD	Executive Committee (*Conseil de Direction*)
CP	Planning Advisor (*Conseille de Planification*)
CRPS	Regional Committee for Programming and Monitoring
CTG	Technical and Management Committee
DANIDA	Danish International Development Agency
DIAPER	Permanent Diagnostic Project for Regional Food Security
EU	European Union
IPM	Integrated pest management
IRENE	Inventory, evaluation, and monitoring of the natural and socioeconomic environment in the Sahel and coastal West Africa project
OVI	Objectively verifiable indicator
M&E	Monitoring and Evaluation
MP	Major Program
MPI	Major Program for Information
MPT	Major Program for Training
NRM	Natural resource management
SE	Executive Secretary of CILSS
USAID	U.S. Agency for International Development

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I. Purpose of the Consultancy

The overall purpose of this consultancy was to work with AGRHYMET's two Major Programs to draft indicators for monitoring and evaluation (M&E). The consultant worked on this task with the Programs in 1998, but major changes in the their Objectives and Results as well as in the structure of the M&E system that CILSS is in the process of designing necessitated further work. One goal was to have draft indicators ready for AGRHYMET's CTG meetings this September, and for the Executive Secretary/Planning Advisor to review in terms of the M&E system that CILSS is designing. Another purpose of the consultancy was to recommend how AGRHYMET can begin to set up an M&E system that fits into the not-yet-finalized CILSS system.

The consultant's specific tasks were to:

1. Review and define indicators for the two Programs' revised Results, which currently total five (versus eleven in 1998). Standardize the indicators with those the consultant recently drafted for INSAH in order to contribute to CILSS's M&E efforts.

2. Review and revise the indicators for the Programs' Operational Objectives. This is particularly applicable to the Information Program (MPI) that defined indicators for a major project that was not funded (IRENE), and needs indicators based on its current program.

3. Define impact indicators for the Major Programs, the types of information to collect for them, and sources of verification.

4. Discuss the Major Programs' and AGRHYMET's "limits of responsibility" in terms of evaluating program impact at level of the States.

5. Integrate the work with AGRHYMET into CILSS's current process of designing a global M&E system.

II. CILSS and M&E: A Work in Progress

A short review of CILSS's efforts to set up its M&E system is useful because it illuminates the factors that facilitate and constrain the work. CILSS's need for a M&E system to contribute to decision-making and evaluating performance was identified with its restructuring to three-year rolling plans and the program approach. CILSS organized workshops in 1996 and 1997 to work on implementing the "rolling plan approach" and M&E as an integral part of it. A M&E Cell headed by the Planning Advisor (CP) was established within the Executive Secretariat (SE). In 1999 the Regional Committee for Programming and Monitoring (CRPS) asked CILSS to focus on M&E in order to create an operational system in a timely and cost-efficient manner. This year a M&E system has been proposed. The system was designed mainly by CILSS's Principal Consultant for M&E, Dr. Chako Cherif, in collaboration with the CP. It is presented in Dr. Cherif's June 2000 report, "*Deuxieme Phase, Mecanisme de Suivi-Evaluation au CILSS, Rapport Recapitulatif.*" A summary of this M&E mechanism in table form is at the end of this section of the report.

The author of this report and a secondary consultant, Dr. Elizabeth Adelski, has worked with all three CILSS centers to draft different levels of indicators for M&E. She also

collaborated with Dr. Cherif and the CP on designing the M&E system ("A Monitoring and Evaluation System for CILSS," June 2000). These reports should give CILSS and its partners a basis for taking further steps toward establishing a M&E system. (Note that in this report CILSS's "partners" are defined as the donors, the States, and the States' representatives such as the Council of Ministers).

Several factors have constrained the process of designing and implementing a M&E system for CILSS. One is the complexity of the institution, with its three Centers, six Major Programs, eight or more donors, and nine member States. This creates challenges in terms of setting up a standardized system that can collect, aggregate, and disseminate information over time and across space. In the consultant's experience, having numerous partners has led to another fundamental constraint on designing the M&E system: the lack of a clear consensus on and formal statement of the partners' information requirements for monitoring and evaluation, and the criteria for meeting them. A clear information-request from CILSS's major partners--the Council of Ministers, the States, the donors--is *essential* as the basis for designing its M&E system. The Council of Ministers' information needs are a key consideration but their formal statement, if it exists, has not been available to the consultant. CILSS's institutional information needs--e.g. for internal management--are the other key orientation point for designing the system.

The consultant recently asked some donors to define their information needs as the starting-point for her task of drafting a M&E system for CILSS. The donors' working group in Ouagadougou articulated these five needs:

1. Evaluate the performance and impact of the current Programs.
2. Prove annual reports for the CTG.
3. Measure long-term impacts.
4. Provide useful M&E information for several levels of users: researchers, program managers, donors, and member States.
5. Evaluate impact (i.e. demonstration of change) every three and ten years at the Major Program Results levels, using objectively verifiable indicators.

These points are a useful but only partial response to a crucial issue. It remains to be determined if they meet the other donors' information needs, or those of the Council of Ministers, or those of other key partners. The issue of defining global information needs should be addressed in this year's CTG. Then the partners need to reach consensus on acceptable methods to meet these information needs--that is, the criteria for evaluating the performance and impact of CILSS's programs. The fact that there is a different constellation of partners in each CTG, and that the CTGs generally make independent decisions regarding their Centers, complicates this process somewhat. However, if each CTG could come to consensus on these two key issues, then the SE could consolidate the conclusions and use them to structure the M&E system.

CILSS's M&E system remains a work in progress. The CILSS consultants have proposed overlapping but different M&E systems. The CP has not made any decision at this time. The indicators for AGRHYMET therefore have been drafted on the basis of information from the donors in Ouagadougou and a proposed M&E system. It is not entirely logical to define indicators before the system is finalized, but it is an impetus for progress. AGRHYMET and the consultant believe that the indicators in this report will provide a

concrete basis for discussing M&E issues at the CTG. It also would be useful for the CTG to review the proposed M&E systems in terms of their information needs.

Table 1. A M&E Mechanism for CILSS (Cherif, June 2000)

Level	Actors	Monitoring	Evaluation (Impact)
1	States, donors, and development partners. Key meetings: Conference of the Heads of States, every 3 years. The annual Council of Ministers. The annual Regional Council for Programming and Monitoring (CRPS).		1. Sum of the results and impacts from beneficiaries, States, and donors. 2. Frequency: every three years, based on CILSS's three-year rolling plans; and every 10 years, based on CILSS's ten-year plans. 3. Methods: use of objective indicators (in the *Plan*), qualitative information, and external (donors', partners', others') evaluations.
2	Executive Secretariat: the Executive Committee (CD), the Planning Advisor (CP), and the M&E Cell.	Bi-annual and annual monitoring in the form of reports with information in tables. Information in three major areas: the Operational Plans; the Repertoire of projects and programs (RPP); and the Repertoire of accords and conventions (RAC). The Programs' CTG reports also will provide monitoring information.	1. Sum of the results and impacts. 2. Frequency: every three and ten years. 3. Methods: objective indicators (in the *Plan*) plus qualitative information, and external evaluations (donors, partners, others).
3	"*Direction Generale Coordination*:" the three CILSS Centers. The annual CTGs. The trimestrial Inter-Program Committee for Monitoring (*Comite de Suivi Inter Programmes*).	Bi-annual reports and annual forms to transmit information on: Operational Plans, Implementation of Activities, RPP, and RAC.	1. The sum of results and impacts. 2. Frequency: every three years, based on the Plan's technical aspects; and every 10 years. 3. Methods: ?

Table 1. A M&E Mechanism for CILSS (Cherif, June 2000),

continued

Level	Actors	Monitoring	Evaluation (Impact)
4	The six Major Programs.	1. Forms to transmit information on: Operational Plans and the Implementation of Activities. 2. Trimestrial reports ("*fiche de projet*").	1. Evaluation at the Operational Objective level. 2. Frequency: every three and ten years plus regular ("*ponctuelles*") evaluations. 3. Methods: objective indicators (in the *Plan*) plus qualitative information, and external evaluations (donors, partners, others).
5	Operational Units (the Results level) and their experts.	1. Forms to transmit information on: Operational Plans and the Implementation of Activities. 2. Trimestrial reports ("*fiche de projet*").	1. Evaluation at the Results level. 2. Frequency: every three and ten years. 3. Methods: objective indicators (to be defined) plus qualitative information, and external evaluations (donors, partners, others).

III. Monitoring and Evaluation for AGRHYMET

A. Monitoring

The purpose of *monitoring* is basically to track plans in terms of accomplishments--activities or expenditures planned versus those realized. The "monitoring indicators" are the activites or expenditures that are planned, such as "organize two workshops, produce a synthesis report, hire a laboratory technician." Monitoring is a relatively clear exercise although a complex institution like AGRHYMET may have gray areas: activities only partially accomplished, or not planned but done. AGRHYMET's monitoring system exists in at least two forms: the annual reports produced for the Center's CTG, and the six- and twelve-month reports produced for the CP. Some donors (Denmark, Netherlands) also require bi-annual reports. The head of AGRHYMET's Management Center reported that the different donors have different requirements and schedules for accounting information. AGRHYMET thus has several different monitoring requirements and formats.

According to the CP the format for the CTGs' and CILSS's monitoring reports was standardized in 1999, but this is not evident at AGRHYMET. The PMI's and PMT's first-semester 1999 monitoring reports for CILSS each have different formats, neither of which is the CP's most recent "standardized" format. The format for the Programs' CTG reports was set by the CTG itself; it is the same for both Programs, but not the same as the CP's format for the monitoring reports. Obviously the different requirements for accomplishing one task--transmitting monitoring information to AGRHYMET's partners--increases the staff's workload.

In principle, AGRHYMET should have a standardized monitoring system. The donors, the CP, and the CTG should reach consensus on the types of information required, the reporting format, and reporting periodicity. Realistically, however, this probably is not possible due to the partners' different periodicity requirements (i.e., bi-annual or annual reports) and the different composition of the three CTGs. A standardized reporting format would streamline the system to some extent, however. The partners and the SE could decide on the types of monitoring information needed and the format for reporting them, such as those currently used. For example:

Information Program

Month and Year	Activities Planned	Activities Realized	Activities Not Realized	Observations
July 2000	Hydrology workshop and synthesis report	Hydrology workshop	Synthensis report	Information from Mali lacking

This standardization would at least allow the Major Programs to use one format, add

information to it throughout the year, and produce a cumulative monitoring record for any period.

B. Impact Indicators for Evaluation

1. Draft Impact Indicators at the Results Level

The CILSS M&E system, and AGRHYMET's indicators that are part of it, are works in process. The indicators are based on guidance from USAID, the donors' group in Ouagadougou, and the consultant's recent work on the M&E system with the CP and Cherif. The consensus was to evaluate impact at the Results level every three and ten years. The AGRHYMET indicators therefore are designed for 2001, the end of the current three-year plan, and for 2004, which is the end of both the next three-year plan and CILSS's ten-year plan. They are also "objectively verifiable" indicators as requested by the donors.

The consultant worked with the AGRHYMET staff to define draft Results-level impact indicators for both Major Programs. The staff's participation was essential due to their knowledge of the Programs' activities and the status quo at the State levels. The consultant's work was to focus the discussions and articulate clear indicators. Defining the indicators was an iterative process of discussion, articulation, review, and revision. The final rounds of discussion were with AGRHYMET's D.G. and the heads of the Major Programs.

The indicators for the Information Program are presented in Table 2 and those for the Training Program are in Table 3; the tables are in Section V below. It is important to note that these are *draft* indicators that are proposed for review in AGRHYMET's CTG; we assume that they will be the subject of further discussion and revision. In general we have defined more indicators than necessary per Result so that the CTG has latitude for discussion and choice. A maximum of three indicators per Result is recommended.

2. Draft Indicators at the Operational Objective Level

The current *Plan Triennal* contains indicators for the Major Programs' Operational Objectives. These indicators were revised and supplemented in order to improve their quality and provide material for the CTG's review. We have drafted indicators for both 2001 and 2004 although in the consultant's opinion it would be appropriate to assess impact at this level every six and ten years rather than every three years. These are also *draft* indicators that require finalization. The indicators for the Information and Training Programs are in Tables 4 and 5 respectively, in Section V below.

3. Performance Indicators and the Management Center

"Performance" generally is assessed in terms of efficacity, efficiency, and timeliness. The Ouagadougou donors' group included information on performance at the Program level in their list of information requirements (see Section II above). The consultant has had minimal input from the CILSS partners and the CP about assessing performance and defining performance indicators, and the topic is generally absent in the proposed M&E schemes. Due to these factors and constraints of time, the consultant did not define performance indicators for AGRHYMET and its Programs. The partners' information needs on performance, and the types and levels of acceptable performance indicators in particular,

should be well defined before effort is invested in defining these indicators. This is a topic that AGRHYMET can usefully address at the CTG.

AGRHYMET previously stated its wish for objective institutional performance indicators as part of a M&E system. These indicators can be included in a M&E system, but unless carefully defined they may be more useful for AGRHYMET's internal management than for donors. USAID has noted that its major information need, to justify continuing funding, is for impacts on Sahelian food security and NRM rather than on institutional performance. The task is to define some institutional performance indicators that reflect AGRHYMET's capacity to work toward its Objectives, which would be useful information for donors as well as the Center.

AGRHYMET's Management Center currently does various analyses at different periods (from monthly to annual) due to the donors' different reporting requirements. These analyses may provide some ready-made institutional measures for AGRHYMET. In addition, the Training Program can provide information on training costs per student and per course. Following are some of the key statistics that the Management Center can calculate that may be useful performance measures for AGRHYMET and its partners:

* Percent of funding mobilized, calculated at the levels of: AGRHYMET, the Major Programs, and the Operational Units (Results).
* Percent of funding spent, calculated at the same levels as above.
* Percent of funding spent on time.
* Amount of funds generated by the Major Programs and reinvested in the Center.
* Expenditures on institutional needs such as personnel costs, temporary staff, training, consultants, and publicity.

C. Responsibility for Impact

The question of the extent of the Major Programs' responsibility for impacts/changes in the CILSS States has arisen at AGRHYMET as it did in the other Centers. The short answer is: the Programs are held accountable for making progress toward the Objectives and Results that they have defined in collaboration with the States and their other partners. They are accountable for *fulfilling reasonable expectations* of national-level impacts/changes and for making *plausible associations* between the Programs' work and those impacts. These reasonable expectations and plausible associations should be embodied in the Programs' indicators, which are known quantities, formulated by the staff themselves, not external, unknown measures. AGRHYMET itself has defined its limits of responsibility for State-level changes--that is, what it expects to achieve in a given time period--first in the form of its Objectives and Results in its workplans, and then in the form of its indicators that will assess the effects of that workplan.

AGRHYMET made a commitment to certain State-level impacts in its three-year program long before it drafted its impact indicators. The Information Program aims to provide "regular and sufficient" information for policy-makers and to reinforce the national food security systems; the Training Program aims to improve national and regional technical capacity in NRM and food security. The factors that constrain the States' abilities were well known when the workplan was designed (including poverty, lack of infrastructure and trained human resources). AGRHYMET in its workplan accepted the responsibility for its

commitments (i.e. its Objectives and Results) in this context. The limits of AGRHYMET's responsibility for impact thus logically are the same as the limits of its responsibility for its commitments. That is, AGRHYMET cannot logically design a workplan to work in States that generally are known to face budgetary constraints, and then later cite those constraints as reasons for not fulfilling its workplan.

The goal of "evaluating impact" is to provide insight into AGRHYMET's contribution toward mutual, positive changes. It is important to remember that impact evaluation using objective indicators is only one perspective on progress, and should be supplemented with others such as qualitative evaluations and biophysical data. For example, PM/I will help the States set up national natural resources databases to track change over time. These databases should provide objective, longitudinal data on improvements in the Sahelian natural resource base, which is CILSS's and the partners' fundamental objective. If impact evaluation and the objective indicators show that the agreed-upon, reasonable expectations of progress (indicators) are not being met, the goal is not to condemn the Centers or partners but to identify the factors that are impeding progress. Then "course corrections," i.e. more appropriate programming, can be done. This is the ultimate goal of evaluating impact. Well-organized monitoring and evaluation may indicate that the Major Programs' Objectives or Results are too ambitious, or that the States' priorities have changed, or that unforeseen social upheaval affected progress. The goal is to use the evaluations and indicators productively, as measuring sticks for progress and programming.

D. Recommendations for Setting Up M&E for AGRHYMET

As a result of recent work with Cherif and the CP, the consultant recommended that CILSS set up its M&E system as a standardized, computerized database capable of transmitting and aggregating data from all three Centers (Adelski, May 2000). The information from each Center would be analyzed on site and sent to the M&E Cell in Ouagadougou for analysis at the CILSS level. Whether these recommendations are incorporated into CILSS's M&E system, and what its structure will be, remain to be seen. Thus there is a limited basis for making recommendations for AGRHYMET to begin building a M&E system. However, given the partners' demand for M&E, CILSS's chronic delay in setting up the system, the donors' statements about information needs, and the Major Programs' opportunity to work on a system at the upcoming CTG, AGRHYMET has a basis for initiating the work.

The CTG is a key opportunity for discussing the basic elements of a M&E system for AGRHYMET, and the consultant strongly recommends that the Center put it on the agenda in order to make progress. The following steps are recommended for working within the existing CILSS efforts to set up an M&E system:

1. Obtain copies of Chako Cherif's reports in order to understand the proposed system. The last report is likely to be the most useful (Cherif, 2000). Obtain copies of Adelski's last report with recommendations for the M&E system (Adelski, May 2000). AGRHYMET should check with the CP to find out about SE-level reactions to the consultants' reports and about any recent decisions about the M&E system.

2. Distribute the two above reports and this one to the AGRHYMET staff and everyone who will be involved in the CTG. (This is assuming that M&E will be on the CTG's agenda and a topic of discussion). AGRHYMET staff should meet and evaluate the

M&E systems proposed in the reports and prepare a position paper for the CTG.

3. The CTG is an key forum for resolving many of the basic M&E issues that exist. The major issues that should be addressed in the CTG are:

a. The partners' information requirements.
b. The methods and criteria that partners will accept to meet those information needs.
c. Reach consensus on: the types and levels of indicators required for evaluating impact and performance, and the periodicity for evaluating impact and performance.
d. AGRHYMET's limits of responsibility for State-level impacts.
e. Indicators: negotiate indicators for M&E, beginning with those in this report and the *Plan Triennal*.
f. Standardization: based on the fact that some donors fund all three CILSS Centers (e.g. USAID and the French Cooperation) and thus in principle have the same M&E requirements for all three, and because it would be useful to consolidate and share progress made on M&E in AGRHYMET's CTG, discuss initiating M&E at AGRHYMET in terms of a standardized system for CILSS. If the CTG could produce a written statement it would contribute to CILSS's ongoing efforts toward M&E.
g. Monitoring: negotiate the possibility of standardizing monitoring, or at least the monitoring formats, in order to reduce staff workload.
h. Implementing M&E: identify funding sources and ratify the use of short-term consultants. CILSS has decided on the latter.
i. Next steps: decide on the next steps and a timeframe for AGRHYMET to take to start building a M&E system.
j. Produce a written statement of consensuses reached between AGRHYMET and its partners.

3. The consultant recommends setting up a standardized and computerized M&E system. The system should facilitates the exchange, storage, aggregation, and disaggregation of information. This should be feasible for AGRHYMET to design due to its technical competence.

IV. Tables

Table 2. Major Program Information: Draft Results-Level Indicators

Result I: The information systems on food security in all the CILSS States and at the subregional level (Sahel) are reinforced.		
2001 Indicators	2004 Indicators	Sources of Information (2004)
1. At least six States produce all of their "Agro-Meteorology" bulletins with all the required information every ten days from April/May to the end of October each year. 2. Each year at the end of November all nine States produce cereal balance sheets that are based on agricultural surveys. 3. At least six States publish complete (cereals and livestock prices) market information each week throughout the entire year. 4. At least half of the CILSS donors report that the States' information/data on food security is their primary source of information for decision-making for food aid and/or strategies. 5. The policies and/or food strategies in at least three States incorporate information/data from the States' food security information systems.	1. All nine States produce all of their "Agro-Meteorology" bulletins with all the required information every 10 days from April/May to the end of October each year. 2. Each year at the end of November all nine States produce food balance sheets that are based on agricultural surveys. 3. All nine States publish complete (cereals and livestock) market information each week throughout the entire year. 4. AGRHYMET publishes complete (cereals and livestock) regional market information each week throughout the entire year. 5. All nine States publish all six key reports on time (an "Agro-Meteorology" bulletin every 10 days; a monthly bulletin of agro-hydro-meteo-pasture information; weekly market information on cereals and livestock prices; an annual report of agricultural statistics, the "Resultat Definitive d'Enquete;" an annual cereals balance-sheet; and an annual agro-hydro-meteo-pasture synthesis). 6. Functional databases with thematic data related to food security (natural resources; biophysical, physical, and socioeconomic factors) exist at the regional and State levels, and are accessible to all users. 7. All the CILSS donors report that the States' information/data on food security is their primary source of information for decision-making for food aid and/or	1. Review of States' "Agro-Meteorology" bulletin publications. 2. Review of States' food balance sheets. 3. Review of States' complete market information reports. 4. Review of AGRHYMET's complete market information reports. 5. Review of States' publications. 6. Assessment of States' food security databases. 7. Donor survey. 8. Review of AGRHYMET's regional "Flash" bulletin. 9. Review of the States' food security policies/strategies.

	strategies. 8. Every issue of AGRHYMET's regional "Flash" bulletin contains 100% of the information required from all nine States and is available on the Internet every ten days from April/May to the end of October each year. 9. The policies and/or food strategies in at least six States incorporate information/data from the States' food security information systems.	

Table 2. Major Program Information: Draft Results-Level Indicators, continued

Result II: The status and evolution of the natural resources and environment in the Sahel and coastal West Africa are better known.		
2001 Indicators	2004 Indicators	Sources of Information (2004)
1. Four States have standardized, national-level, multisectoral databases of their natural resources.* 2. A standardized nomenclature for land use has been created for the CILSS region.	1. All nine States have standardized, national-level, multisectoral databases of their natural resources. 2. AGRHYMET has a standardized, regional-level, multisectoral database of the CILSS's region's natural resources. 3. All nine States have the technical capacity to maintain their national databases on natural resources and use the data to do mapping and modeling (e.g. the interaction between biophysical factors and demography). 4. All the donors report that the State's data/information on natural resources are their primary source of information for designing NRM and agriculture projects/strategies. 5. All the States' NRM/environment policies incorporate information/data from their databases on natural resources.	1. Assessment of the States' natural resource databases. 2. Assessment of AGRHYMET's regional natural resource database. 3. Assessment of currency of States' databases and products (maps, models, analyses). 4. Donor survey. 5. Review of States' NRM/environmental policies.

* Multisectoral: water, vegetation, pasture lands, degraded soils, land use.

Standardized: standardized nomenclature; standardized methods for collecting, analyzing, and reporting data; and standardized mapping methods.

Table 3. Major Program Training: Draft Results-Level Indicators

Result I: Increase national and regional competence in four major areas (agrometeorology, hydrology, plant and environment protection, and instrument maintenance).		
2001 Indicators	2004 Indicators	Sources of Information
1. At least 80% of the graduates of AGRHYMET's Training Program who are employed are working in positions corresponding to their training and in institutions/projects that work in the areas of food security and NRM. 2. At least two States formulate a strategy for IPM and produce at least one extension tool on the alternatives to chemical pest control.	1. At least 80% of the graduates of AGRHYMET's Training Program who are employed are working in positions corresponding to their training and in institutions/projects that work in the areas of food security and NRM. 2. At least three States formulate strategies for IPM and officially adopt it as a national policy for plant protection.	1. MP/T surveys and reports. 2. Review of States' strategies an policies.
Result II: The training is adapted to the needs of the institutions working in the four areas above and takes gender into account.		
1. At least 80% of the graduates of the Training Program report that their training was appropriate for their professional work, in the evaluations conducted every 3-4 years by the MP/T. 2. At least 30% of the students recruited for training at AGRHYMET during 1999-2001 are women.	1. At least 80% of the graduates of the Training Program report that their training was appropriate for their professional work, in the evaluations conducted every 3-4 years by the MP/T. 2. At least 60% of the women graduates of AGRHYMET's MP/T who are employed are working in positions corresponding to their training and in institutions/projects that work in the areas of food security and NRM. 3. At least 30% of the students recruited for training at AGRHYMET during 2002-2004 are	1. MP/T survey. 2. MP/T survey. 3. MP/T records. 4. MP/T records.

	women. 4. The MP/T organizes at least two short-term training sessions based on the major areas of interest defined by Sahel 21.	

Table 3. Major Program Training: Draft Results-Level Indicators continued

Result III: Good scientific and technical information is available to the institutions working in the four areas above.		
2001 Indicators	2004 Indicators	Source of Information
1. AGRHYMET's Documentation Center has a Web page through which users can access its computerized bibliography and request documents. 2. AGRHYMET's Documentation Center's resources increase by 1,000 new references each year during 1999-2001. 3. The number of requests for publications met by AGRHYMET's Documentation Center increase each year. 4. The number of requests for publications from AGRHYMET's Documentation Center by category of user (researcher, teacher, student, technician/extension agent) increases each year. 5. AGRHYMET's Documentation Center has a current, international list of 3,000 users who are regularly informed of the publications available in the Center.	1. The nine States' documentation centers have an electronic network that provides a computerized, common database for all their documentary resources. 2. AGRHYMET's Documentation Center's resources increase by 1,000 new references each year. 3. The number of requests for publications met by AGRHYMET's Documentation Center increases each year. 4. The number of requests for publications from AGRHYMET's Documentation Center by category of user (researcher, teacher, student, technician/extension agent) increases each year. 5. AGRHYMET's Documentation Center has a current, international list of 3,250 users who are regularly informed of the publications available in the Center. 6. Each year MP/T designs and provides at least two new courses for short-term training. 7. Every three years MP/T revises its courses to respond to demand and the evolution of new technology.	2001: 1. Assessment of AGRHYMET's Documentation Center's Web page; MP/T reports. 2-5.: Review of AGRHYMET's Documentation Center's records. 2004: 1. Review of States' documentation centers' electronic networks and MP/T reports. 2-5.: Review of AGRHYMET's Documentation Center's records and MP/T reports.

Table 4. Major Program Information: Draft Operational Objective-Level Indicators

Information Program's Operational Objective	Indicator in the *Plan Triennal*	Draft Indicators		
	2001	2001	2004	Source of Information
Policy-makers and other actors are regularly and sufficiently informed, in a pertinent manner, in order to make more rational decisions on questions related to food security, natural resource management, and the environment of the Sahel and coastal West Africa.	Beginning in 2000, all the decisions made concerning Food Security and NRM conform with the conclusions of the food balance sheets and the status of the natural resources.	1. The States determine their need for food aid before October 1 each year (i.e., there are no unexpected food crises due to the use of crop-monitoring information). 2. At least two States have formulated rational strategies regarding food security based primarily on the data and information from their own national information systems. 3. At least two States have formulated rational NRM policies based primarily on the data and information from their own national information systems.	1. The States determine their need for food aid before October 1 each year (i.e., there are no unexpected food crises due to the use of crop-monitoring information). 2. At least six States have formulated rational policies and/or strategies for food security based primarily on the data and information from their own national information systems. 3. At least six States have formulated rational policies and/or strategies for NRM based primarily on the data and information from their own national information systems. 4. At least two States have identified and monitored specific natural resource degradation problems using their natural resources databases. 5. The data from at least four	1. States' records. 2. Review of States' food security policies and strategies. 3. Review of States' NRM policies and strategies. 4. Review of State documents. 5. National statistics. 6. Review of States' national natural resource databases. 7. Review of States' national natural resource databases.

			States show that national food security has improved since 1994. 6. Policy-makers have valid, objective, longitudinal information to formulate rational policies for land-use and NRM. 7. The States and partners have valid, objective, and longitudinal information to evaluate the impact of NRM strategies and policies.	

Table 5. Major Program Training: Draft Operational Objective-Level Indicators

Training Program's Operational Objective	Indicator in the *Plan Triennal*	Draft Indicators		
	2001	2001	2004	Source of Information
The technical capacity of the actors in the domains of Food Security and NRM, at the national and regional levels, are improved and reinforced through professional training adapted to the Sahelian context.	In 2001, at least 80% of the graduates of the Training Program hold positions conforming to their qualifications in institutions responsible for formulating and implementing Food Security and NRM policy in the CILSS States.	1. At least 80% of the graduates of the Training Program hold positions conforming to their qualifications in private or public institutions responsible for formulating and implementing Food Security and NRM policy in the CILSS States. 2. In 2001 the graduates of MP/T teach in at least four workshops organized by MP/T and held in the States. 3. In 2001 MP/T designs and gives at least two new courses for short-term training.	1. At least 80% of the graduates of the Training Program hold positions conforming to their qualifications in public or private institutions responsible for formulating and implementing Food Security and NRM policy in the CILSS States. 2. Each year during 2002-2004 the graduates of MP/T teach in at least four workshops organized by MP/T and held in the States. 3. The percent of female students in the MP/T has increased since 2002. 4. At least one technical service per State has a computerized bibliographic database and a librarian trained by MP/T. 5. The States' national meteorological services are the references (standards)	1. Survey and reports by MP/T. 2. Survey and reports by MP/T. 3. Survey and reports by MP/T. 4. Survey and reports by MP/T. 5. MP/T records. 6. Review of State and donors documents, country reports.

			for national meteorological information. 6. In at least four States, MP/T graduates hold key, decision-maker positions in departments or institutions responsible for food security or NRM.	

Table 6. Major Program Information: Objectives, Results, and Principal Activities

Strategic Objective: The constraints on sustainable food security and rational natural resource management in the Sahel are mastered.	
Operational Objective: Policy-makers and other actors are regularly and sufficiently informed, in a pertinent manner, in order to make more rational decisions on questions related to food security, natural resource management, and the environment of the Sahel and coastal West Africa.	
Results	Principal Activities
1. The information systems on food security in all the CILSS States and at the subregional level (Sahel) are reinforced.	1. Reinforce the early warning systems at the levels of the CILSS States and the subregion (Sahel). 2. Promote the producers' use of agro-hydro-meteorological information. 3. Improve the analyses of the food and nutritional situation in the CILSS States and at the subregional level (Sahel).
2. The status and evolution of the natural resources and environment in the Sahel and in coastal West Africa are better known.	1. Produce an exhaustive inventory of the state of the natural resources and the environment in the Sahel and coastal West Africa. 2. Establish a permanent observatory for monitoring and surveillance of different ecosystems. 3. Reinforce the institutional and human capacities in the subject of natural resources management in the CILSS States and coastal West Africa.

Table 7. Major Program Information: Indicators in the Plan Triennal 1999-2001

Major Program Information	Objectively Verifiable Indicators	Sources of Verification
Operational Objective: Policy-makers and other actors are regularly and sufficiently informed, in a pertinent manner, in order to make more rational decisions on questions related to food security, natural resource management, and the environment of the Sahel and coastal West Africa.	Beginning in 2000, all the decisions made concerning Food Security and NRM conform with the conclusions of the food balance sheets and the status of the natural resources.	1. Activity reports of MP Information. 2. The ministries and other institutions responsible for food security and NRM.
Result 1: The information systems on food security in all the CILSS States and at the subregional level (Sahel) are reinforced.	1. 100% of the bulletins are available on the Internet every 10 days from April to November each year (24 bulletins per year). 2. All nine States' cereal balance sheets are done on of the basis of provisional data produced the end of November each year. 3. Each year at least nine people receive short-term training in equipment maintenance. 4. Each year MP Information produces at least 2 bulletins about the agricultural situation in specific periods (May/June, July/August, and August/September). 5. Each year at least one work-meeting is organized with the principal actors in the Sahel (FEWS, FAO, AGRHYMET, Club du Sahel). about standardizing data and approaches. 6. Each year at least one work-meeting is organized	1. MP Information/AGRHYMET 2. MP Information/AGRHYMET, the States' agricultural statistics services. 3. MP Information reports. 4. MP Information. 5. Meeting report. 6. Reports from the meeting and from MP Information.

	with the technical services of the ministry responsible for agriculture in each CILSS State about standardizing data and approaches.	
2. The status and evolution of the natural resources and environment in the Sahel and in coastal West Africa are better known.	1. The complete inventory of data and information sources on natural resources and the environment of the Sahel and West Africa is available in December 1999. 2. 100% of the maps (natural resources and environment) on the Sahel and West Africa are available in December 2000. 3. The analysis and interpretation of satellite images begins in early 2001. 4. A technical operations manual exists for each observation site in December 2001.	1. PM Information's inventory of resources. 2. MP Information's maps, and the States. 3. MP Information reports and agreement protocols with the States. 4. States, technical manual.

Table 8. Major Program Training: Objectives, Results, and Principal Activities

Strategic Objective: The constraints on sustainable food security and rational natural resource management in the Sahel are mastered.	
Operational Objective: The technical capacity of the actors in the domains of Food Security and NRM, at the national and regional levels, are improved and reinforced through professional training adapted to the Sahelian context.	
Results	Principal Activities
Result 1. National and regional competence is improved in the areas of agrometeorology, hydrology, protection of plants and the environment, and instrument maintenance.	1. Conduct basic training. 2. Organize workshops, seminars, training, and training of trainers. 3. Ensure modular training in "sustainable management of Sahelian agro-ecosystems." 4. Conduct the trainings identified in the workplans of the other Major Programs. 5. Execute the program of specialization in plant protection. 6. Execute a research program in support of training.
Result 2. The training given takes gender into account and responds to the needs of the institutions working in the areas of agrometeorology, hydrology, plant and environment protection, and instrument maintenance.	1. Determine training needs in the CILSS States. 2. Study the correlation between the training programs and the work done by the graduates in the field. 3. Reactivate the yearbook of AGRHYMET graduates that shows their positions in the different institutions in the States. 4. Promote women's participation in training and take gender into account in training.
Result 3. Scientific and technical information of good quality is regularly available to the institutions working in the areas of agrometeorology, hydrology, plant and environment protection, and instrument maintenance.	1. Reinforce the document base of AGRHYMET's Documentation Center. 2. Make current and reinforce the Documentation Center's databases. 3. Create and keep current a database on continuing training. 4. Ensure the publication of the different bulletins. 5. Ensure the training of trainees and professionals in documentation. 6. Publish and make current the list of professional schools.

Table 9. Major Program Training: Indicators in the *Plan Triennal*

1999-2001

Major Program Training	Objectively Verifiable Indicators	Sources of Information
Operational Objective: The technical capacity of the actors in the domains of Food Security and NRM, at the national and regional levels, are improved and reinforced through professional training adapted to the Sahelian context.	In 2001, at least 80% of the graduates of the MP Training hold positions conforming to their qualifications (training) in institutions responsible for formulating and implementing Food Security and NRM policy in the CILSS States.	1. Yearbooks of former MP Training students. 2. Surveys in the States.
Result 1. National and regional competence is improved in the areas of agrometeorology, hydrology, protection of plants and the environment, and instrument maintenance.	1. All the long-term training planned is done each year (56 students in 1999, 45 in 2000, and 45 in 2001). 2. 100% of the short-term training planned is done each year (469 trainees through 2001, approximately one-third each year). 3. In 2001, 80% of the graduates are working in their national services and in their areas of competence (training).	1. MP Training annual reports. 2. MP Training annual reports and reports on the seminars and workshops. 3. Surveys done by MP Training.
Result 2. The training given takes gender into account and responds to the needs of the institutions working in the areas of agrometeorology, hydrology, plant and environment protection, and instrument maintenance.	1. Survey of training needs between 1999 and 2001 in 30 technical services in the CILSS States. 2. MP Training has conducted an analysis of all the LT and ST students' written evaluations.	1. MP Training's survey results. 2. Results of the evaluations of individual courses and continuing training courses.
Result 3. Scientific and technical information of good quality is regularly available to the institutions working in the areas of agrometeorology, hydrology, plant and environment protection, and instrument maintenance.	1. By December 2000 one agent per State is trained in scientific documentation (short-term training). 2. 100% of information disseminated each year: 3 bulletins and 2 letters of liaison. 3. AGRHYMET's Documentation Center database increases by 10% each year.	1. MP Training annual reports and training reports. 2. Documentation Center statistics and list of publications sent 3. Documentation Center database (references registered). 4. Document Center's

	4. At least 7,000 people have requested documents from AGRHYMET's Documentation Center. 5. At least one thematic technical publication is produced each year.	statistics on requests received. 5. MP Training's annual reports and list of publications.

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