

**NYC Watershed Memorandum of Agreement: Outline and Applications in LAC Development Programs**

By

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Prepared for UNDP LAC Environmental Economics Program

2005

## A. INFORMACIÓN GENERAL

<p>1. NYC Watershed Memorandum of Agreement (MOA)</p>	
<p>2. Descripción</p> <p><i>Esta descripción debe tener máximo dos cuartillas.</i></p> <p><i>Esta pregunta debe ser diligenciada una vez las otras preguntas hayan sido completadas, para garantizar que el contenido refleje los aspectos más importantes de la experiencia.</i></p>	<p>Aborde los siguientes puntos:</p> <p>a) Por qué surge y cuáles eran/son los objetivos generales de la experiencia.  <b>The objectives of the MOA are to create a drinking-water management plan, which will adhere to Federal Drinking Water Standards and the 1989 Surface Water Treatment Rule, and avoid the costs associated with a filtration plant for the City’s drinking water. Furthermore, the plan is meant to forge cooperation between upstate, rural citizens and their downstate city constituents by creating environmental service markets and incentives that encourage increased levels of water quality, watershed protection, and local economic development and stability.</b></p> <p>b) Cuáles son los principales resultados — en términos de desarrollo humano, medio ambiente y gobernabilidad ambiental<sup>1</sup>.  <b>New York City has been able to successfully avoid federally-mandated filtration measures since the MOA was begun, January 21, 1997. The program has also involved many upstate farmers and community members in the processes of watershed management, while helping to develop more sustainable business practices and promote upstate/downstate commerce.</b></p> <p>c) Qué instrumentos se desarrollaron para alcanzar estos resultados.</p> <ul style="list-style-type: none"> <li>a. <b>Aquisition of watershed lands: Anywhere along watershed areas/lakes/streams/major large pieces of land that would affect quality;</b></li> <li>b. <b>Watershed Agricultural Program (VOLUNTARY): Extensive regulation of farms within watershed</b> <ul style="list-style-type: none"> <li>i. <b>City-funded farm plans</b></li> <li>ii. <b>Implementation of BMP (structural and nonstructural)</b></li> <li>iii. <b>Conservation Reserve Enhancement Program (CREP): taking riparian buffers out of farming (City/Federal Funding)</b></li> </ul> </li> <li>c. <b>Enforcement of improved Watershed Regulations</b></li> </ul>

<sup>1</sup> Ver Apéndice 1.

	<p><b>d. Initiation and Expansion of environmental and economic partnerships</b>  <b>e. Wastewater Treatment Plant Upgrades</b></p> <p>d) Quiénes fueron los principales actores que participaron en la experiencia.  <b>United States Environmental Protection Agency, Region 2, the State of New York, the City of New York, watershed towns, villages and counties, environmental and agricultural organizations, and others</b></p> <p>e) Cuáles son los elementos innovadores de esta experiencia.  <b>A voluntary-based filtration avoidance program that focuses on improved monitoring, better land-use practices, and economic incentives for rural community members (particularly those who are directly involved in watershed-affecting practices) to promote environmental quality. The MOA is particularly innovative in that although it retains legal pressures and quotas from the Federal government, the majority of the program is based upon voluntary participation of upstate members, due to historical conflict in the region between the City and rural upstate neighbors.</b></p>
<p>3. Palabras claves</p>	<p>Suministre cinco palabras claves con las cuales esta experiencia podría ser consultada o buscada en una base de datos (por ejemplo: Pago servicios ambientales, biodiversidad, agua, valoración ambiental, etc.).  <b>Watershed management, rural economic development, water quality, farm management, land-use practices</b></p>
<p>4. Localización</p>	<p>Indicar:</p> <p>a) Ubicación geográfica en donde se desarrolló la experiencia (Municipio, Provincia, País).  <b>Catskill/Delaware Watershed and New York City, New York State, United States</b></p> <p>b) Extensión territorial.  <b>Northern United States</b></p>
<p>5. Período de duración</p>	<p>Año de inicio (desde que surge la idea) y año de finalización de la experiencia, indicando también el número total de meses requeridos. Si la experiencia está vigente indique el año de inicio y el horizonte de tiempo para el cuál está planteada la experiencia.  <b>MOA was set into agreement on January 21, 1997, and is ongoing with continual monitoring that must comply with the Federal Safe Drinking Water Standards (SDWS). The program is conditionally under 5-year approval renewal with the Federal Environmental Protection Agency.</b></p>
<p>6. Reconocimientos recibidos</p>	<p>Si la experiencia ha recibido premios, menciones u otras distinciones, a nivel nacional o internacional, se debe indicar:</p>

	<p>a) Qué premio, mención o distinción recibió.</p> <p>b) Quién otorgó el reconocimiento (experto o institución), indicando, si la organización es de acción nacional, regional o internacional, Gubernamental, Organización No Gubernamental (ONG), sector privado, académica, otra.</p> <p>c) En qué año.</p> <p>d) Por qué recibió el premio la experiencia.</p>
<p>7. Información adicional a tener en cuenta</p> <p><i>Esta pregunta debe ser diligenciada una vez las otras preguntas hayan sido completada.</i></p>	<p>Si hay información adicional sobre la experiencia, productos desarrollados e instrumentos utilizados que no haya sido abordada en este formato y usted considera esencial para la comprensión o replicabilidad de la experiencia, expóngala en este espacio.</p> <p><b>One of the key issues concerning the success of NYC’s Watershed MOA and an aspect of the program that does impact its’ applicability in other regions is the levels of funding involved and the resources of NYC itself. Although the program has managed to avoid the estimated \$6 billion costs of building a new water filtration plant for the city, there has been and imput of at least \$39.2 million by NYC into the Watershed Agricultural Program and over \$1.5 billion into other programs and initiatives in the MOA; These sums are substantial and, indirectly, Federally mandated due to Federal drinking water quality regulations under the Safe Drinking Water Standards. The costs of these programs may prevent their direct applicability to regions where funding opportunities at this scale are not as evident.</b></p>

## B. LÍNEA BASE

<p><b>8. LINEA BASE NIVEL NACIONAL:</b></p> <p>Condiciones generales existentes antes de iniciarse la experiencia de mercado para Servicios Ambientales</p>	<p>Referenciar los elementos o condiciones nacionales que hayan influenciado DIRECTAMENTE de manera positiva o negativa a la experiencia (Ej. Proceso de descentralización en el que se encuentra el país, procesos legislativos que buscan limitar el uso de instrumentos de comando y control, ratificación de tratados internacionales en materia ambiental, etc.).</p> <p><b>As heretofore mentioned, the Federal Drinking Water Standards coupled with the high costs of a water filtration plant are what enabled the creation of the NYC Watershed MOA. The United States Environmental Protection Agency maintains strict guidelines and enforces constant monitoring of NYC’s drinking water and their acceptance of the programs within the Watershed MOA is conditional upon the level of upstate participation and water quality data. Failure to comply with the Federal Drinking Water Standards will result in the automatic suspension of the MOA and suspension of the Filtration Avoidance Directive.</b></p>
<p><b>9. LINEA BASE NIVEL LOCAL:</b></p>	<p>Condiciones existentes en la localidad antes de que se diera inicio a la experiencia. Se debe hacer referencia a lo siguiente:</p>

<p>Condiciones generales existentes en la LOCALIDAD antes de iniciarse la experiencia de mercado para Servicios Ambientales</p>	<p>a) Contexto local: condiciones políticas, económicas, sociales, geográficas, culturales<sup>2</sup>, etc. que fueron relevantes para dar inicio a la experiencia – es necesario presentar indicadores relevantes de estos aspectos –.</p> <p><b>The high percentage of upstate residents living in the watershed who are agriculturalists have enabled the focus of many of the incentive programs to be on farm management and BMP promotion. Furthermore, the long history of conflict between NYC and upstate citizenry is what instituted the voluntary nature of many of the components of the Watershed MOA including: land acquisition, better farm management practices, and other key aspects of the program.</b></p> <p>b) Niveles reales de descentralización y de participación ciudadana en la localidad donde se da la experiencia.</p> <p><b>The creation of the Watershed Agricultural Program and the Watershed Agricultural Council (comprised of all levels of participants, from farmers to foresters and from local citizens to researchers) ensure local participation and direct impact on agricultural planning and watershed land-use practices.</b></p> <p>c) Niveles de legitimidad de las autoridades públicas.</p> <p><b>Public authorities hold an increasing level of authority in the region, particularly now that there is a locally-based participatory Watershed Management Plan. In past years, city agencies such as the NYC Department of Environmental Protection were not looked upon favorably throughout the watershed, due to perceived “autocratic” programs that forced land acquisition and only looked out for the City’s interests.</b></p> <p>d) Tipo de relaciones entre los actores — públicos, privados y de la sociedad civil— en la localidad.</p> <p><b>The majority of the participants in the Watershed MOA are a part of the public sector (government, non-profit organizations, research institutions) or from civil society. There has not been key involvement by the private sector.</b></p> <p>e) Capacidades institucionales que tenían los actores antes de vincularse a la experiencia.</p> <p><b>The main city institution that controls the NYC water supply system is the NYC Department of Environmental Protection, however, many institutions on the National, State Regional and local level are involved in the the formation and the implementation of the programs within the Watershed MOA including, but not limited to: United States Environmental Protection Agency, Region 2, the State of New York, the City of New York, watershed towns, villages and counties, environmental, forestry and agricultural organizations.</b></p> <p>f) Marco legal e institucional relevante para la experiencia (se indaga sobre el marco legal e institucional que estaba antes de dar inicio a la experiencia y que generó condiciones propicias para su desarrollo).</p> <p><b>Federal-level government enforcement of the Safe Drinking Water Regulations have forced the need for a Watershed MOA or filtration program. Due to costs, NYC chose the Watershed MOA as a means for filtration avoidance. In addition to this, the voluntary participation in this program is due to historical conflict in the region between city populations and upstate, rural populations. The intense amount of institutional and financial resources available through NYC are critical to the success of the program.</b></p>
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<sup>2</sup> Por ejemplo las percepciones de las comunidades locales/indígenas frente a los recursos, a su relación con el entorno, etc.

**10. LINEA BASE  
NIVEL LOCAL:**

Caracterización del medio ambiente y los recursos naturales en la localidad en donde ocurre la experiencia

Caracterización general del medio ambiente y los recursos naturales de la localidad en donde se desarrolla la experiencia. Se debe hacer referencia a lo siguiente:

a) Principales recursos naturales y su localización (agua, bosques, biodiversidad —flora, fauna—, acuáticos, etc.).  
**The main focus of the Watershed MOA is on the quality of freshwater supplies to the New York City population. However, in order to ensure and maintain federally-mandated water quality levels, the program includes the monitoring and preservation of forests (particularly in riparian buffer zones), aquatic biodiversity (as a measure of water quality), with special emphasis on land-use management practices in the reservoir and “high risk” regions.**

b) Características de los recursos naturales de la localidad (utilización y disponibilidad de estos recursos, usos potenciales de estos recursos, posibilidades de conservación y/o preservación y/o restauración).

**There are strict restrictions on the uses of and availability of water resources within the watershed (that have influence on water quality). There is great interest in conservation of riparian buffer zones and lands that are directly in contact with water sources—leading to increased promotion of sustainable forestry techniques, farm plans to better protect water resources and other “preventative” measures, including sustainable farming and better land-use management programs.**

c) Estadísticas e indicadores relevantes de la localidad (por ejemplo: número de especies de plantas y animales vertebrados identificados respecto al total nacional; presencia de especies de plantas y animales vertebrados endémicos y en peligro de extinción; porcentaje del área donde se desarrolla la experiencia que está bajo un régimen de protección especial o área protegida; porcentaje de la superficie cubierta por vegetación primaria, secundaria y si vegetación; tasa de deforestación; tasa de erosión y desertificación; entre otros).

**The New York City watershed spans approximately 1,900 square miles through the mountainous regions of the Catskills and the Hudson River Valley. The majority of consumers linked to the watershed are all downstream, as the reservoir systems deliver around 1.4 billions of gallons of water daily to the population of New York City and surrounding suburban and rural counties (~9million, with the majority residing in the city-proper). The focus is on freshwater quality, particularly in pertaining to fecal coliform and other microbiological contaminants that cause illness in humans.**

d) Usos de los recursos naturales en el área – actividad agrícola y/o silvopastoril, uso de agua con fines agrícolas, consumo humano, aprovechamiento forestal, minería, pesca, etc. –.

**Water resources are used for human consumption. The majority of the water resources affected are for use in New York City and those upstate populations involved are often on other water systems such as local wells. Agriculture predominates the upstate regions.**

e) Actividades desarrolladas en la localidad tendientes a preservar y/o conservar los recursos.

	<p><b>Historically, New York City has appropriated watershed lands to secure water resources and their quality. However, this has led to intense conflicts between upstate citizenry and the City.</b></p>
<p><b>11. LINEA BASE NIVEL LOCAL:</b></p> <p>Aspectos de Gobernabilidad Ambiental</p>	<p>Condiciones existentes en la localidad en términos de gobernabilidad ambiental. Se debe hacer referencia, entre otras cosas (Ver Apéndice) a lo siguiente:</p> <p>a) Modalidad de gobernanza para la administración y manejo de los recursos naturales y el tipo de propiedad de estos recursos: gestión gubernamental; cogestión; gestión privada; gestión comunitaria.</p> <p><b>Water resources are administered by the New York City government and are regulated by federal standards of water quality.</b></p> <p>b) Reglamentación local vigente que sirve de marco a la gestión y administración del ambiente y de los recursos naturales. <b>For decades watershed farmers have protected the rural quality of their communities, protecting the land from commercial development and, in many instances, maintaining and enhancing its natural capacity to filter-out pollutants that would otherwise contaminate water supplies.</b></p> <p>c) Derechos de propiedad sobre los recursos naturales - propiedad privada, propiedad pública/estado, propiedad comunitaria, libre acceso -. Es importante determinar si el área donde se desarrolla la experiencia es un área protegida. <b>The majority of watershed lands are privately owned (approximately 73%), which is a major factor in the structuring of the incentives associated with the Watershed MOA, particularly the voluntary nature of the programs. The reservoirs themselves are monitored and run by City employees (NYC Department of Environmental Protection-DEP)</b></p> <p>d) Tipos de instituciones que administran el sistema de cobro por servicios públicos, con especial énfasis en el recurso hídrico (Ej: Empresa de Agua Municipal, Nacional, Privada, Central). En el caso de que no exista cobro por servicios, reseñarlo.</p> <p><b>Institutions that are involved in NYC water provision and regulations (Federal, State, City): US Environmental Protection Agency, US Corps of Engineers, NYS Department of Health, NYS Department of Environmental Conservation, NYC Department of Environmental Protection, NYC Board of Water Supply</b></p>

**C. CREACIÓN DE MERCADOS PARA SERVICIOS AMBIENTALES (SA)<sup>3</sup>**

12. Indique el tipo de	Especifique en cuál de los siguientes servicios ambientales se estableció un esquema de cobro y pago:
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<sup>3</sup> Ver el documento de Francisco Alpizar: "Propuesta de una Metodología Estandarizada para el Diseño e Implementación de un Esquema de PSA a Nivel Local: El Caso del Servicio de Protección del Recurso Hídrico".

<p>servicio ambiental para el cual se creó un mercado</p>	<p>a) Protección de recursos hídricos;  <b>The program not only recognizes the important role that agriculture can play in protecting water quality, it provides economic rewards to watershed farmers for providing environmental services that promote water quality standards implemented by the National Safe Drinking Water Standards.</b></p>
<p>13. Condiciones existentes directamente ligadas con la creación de mercado para el SA</p>	<p>a) Describir condiciones existentes cuando se inicia la experiencia y que tengan relevancia DIRECTA con la creación de mercados para SA — por ejemplo, hay experiencia previa en el pago/cobro de algún servicio ambiental, cómo se estimaron los costos estipulados para la prestación del mismo, cuál era el monto previo de este cobro, etc. —.</p> <p><b>The types of incentives and services rendered in the Watershed MOA are directly influenced by the intense amount of infrastructure development and financial resources within New York City. Furthermore, the historical conflict between involved parties created the need for “alternative” methods of water quality enhancement and insurance. The geography of the watershed in relation to the demographics of the population is also key in the structuring of the agreement; Upstream watershed populations are predominantly rural agriculturalists with subsequent lower average income amounts, and the city population is not only “downstream”, but represents an intensely urban, disproportionate amount of the state population and income.</b></p> <p>b) Indicar si en la normativa ambiental se contempla el uso de instrumentos económicos para apoyar la gestión ambiental y si ya se ha implementado el uso de los mismos.</p> <p><b>Economic incentives and instruments for water quality management in the region have been used to encourage participation and economic development of the rural, upstate populations. Examples of direct economic incentives include the protection of “buffer zones” along water resources through the development and implementation of Watershed Farm Plans, forestry and animal husbandry training and economic incentives have been provided to avoid water body contamination, and cash payments have been provided to ensure specific land-use regulations to streamside landowners. Furthermore, many resources have been allocated towards the development and marketing of products from participating farms and other bodies to consumers in the City, expanding the relationship between the two participating groups. Specific components of the plan and subsequent requirements are discussed in further detail below.</b></p>
<p>14. Problemática que busca resolver</p>	<p>Descripción de los problemas específicos que se buscan resolver a través del desarrollo de este tipo de mercado. Los problemas a describir deben tener una relación directa con el desarrollo de mercados para servicios ambientales. Asimismo, la descripción debe tener relación con la magnitud del problema — alcance en términos geográficos, ambientales, población afectada indicando nivel socioeconómico, si hay alguna diferencia por género, entre otros —. Por ejemplo, cuáles eran las necesidades locales existentes para la prestación del servicio ambiental, o cuál era la demanda de este servicio ambiental a nivel nacional o</p>

	<p>internacional.</p> <p>As is previously mentioned, the development of payments for upstate, rural environmental services rendered in regards to water quality are quite specific to the demographics of participating populations, the geography, history of interactions, and financial resource availability. It is crucial to the success of the Watershed MOA that watershed participants remain satisfied with the incentives and results provided in that the program is voluntary and there are participatory quotas being enforced by the Federal government on the City of New York; If the percent participation in the programs does not meet the federal standards, the City will be forced to develop a water filtration plant. In addition to this, much of the success of the program is due to the amount of individual attention and incentives for participation given to the individual farmer. The staffing resources, research, and monetary expenses of such case-based incentives and programs are exhorbanant and are a viable option in the case of the City of New York due to the higher costs associated with the creation of a filtration plant and the availability of these resources in the City itself. This would not be the case for many regions.</p>
<p>15. Análisis de la oferta de Servicios Ambientales</p>	<p><b><u>Watershed Agricultural Program (WAP)</u></b>  <b>Structural improvements to the farm; improved operating practices; exemption from NYC land use regulations (as long as 85% of watershed farmers participate); reduced cost of complying with other regulations.</b>  <b>Must farm within the Catskill/Delaware watershed;</b>  <b>Must earn at least \$10,000/year in gross farm revenue.</b></p> <p><b><u>Small Farms Program (SFP)</u></b>  <b>Improved operating practices; exemption from NYC use regulations; structural improvements on those farms that pose significant threats to water quality.</b>  <b>Must farm within the Catskill/Delaware watershed;</b>  <b>Must earn \$1,000-\$9,999/year in gross farm revenue.</b></p> <p><b><u>Conservation Reserve Enhancement Program (CREP)</u></b>  <b>Cash payments for removing sensitive streamside land out of agricultural production.</b>  <b>Contracts range from 10-15 years.</b>  <b>Must participate in WAP or SFP.</b></p> <p><b><u>Agricultural Easements</u></b>  <b>Cash payment for practicing agriculture in accordance with a Whole Farm Plan (other forms of development are prohibited).</b>  <b>Held in perpetuity.</b>  <b>Must participate in WAP.</b></p>

	<p><b><u>Forestry Easements</u></b>  Cash payment for forgoing all development rights (including agriculture) on land in the Catskill/Delaware watershed.  Held in perpetuity.  Must participate in WAP.</p> <p><b><u>Natural Resource Viability Program (NRVP)</u></b>  Improved marketing opportunities for agricultural products, especially dairy products.  Must participate in WAP of SFP.</p> <p><b><u>Catskill Family Farms Cooperative (CFFC)</u></b>  Expanded marketing opportunities for vegetables and produce.  Must practice non-dairy agriculture in the Catskill region (not necessary to farm within the boundaries of the Catskill/Delaware watershed).</p>
<p>16. Análisis de la demanda por Servicios Ambientales</p>	<p>a) Cómo se identificó la demanda por el servicio ambiental.  <b>The need for the City of New York to adhere to Federal drinking water guidelines and the geographic distribution of upstate residents around the watershed led to an increased acknowledgement in the demand for upstate environmental services.</b></p> <p>b) Quiénes demandan y pagan por el servicio ambiental.  <b>The demand for these services come from the City of New York and its inhabitants.</b></p> <p>c) Qué estudios se realizaron para identificar la demanda.  <b>The demand for services was actively sought by the customers of the services themselves.</b></p> <p>d) Cómo se definió el valor económico del servicio ambiental y cuál es este valor (disposición a pagar identificada de los usuarios).  <b>The City of New York has valued the upstate environmental services by using market value equivalents for land acquisition (voluntary) and assistance to participants (both in-kind and through grants/development assistance). The City of New York is likely to continue the program as long as the costs of all services and programs rendered do not exceed that of a proposed water filtration system.</b></p> <p>e) Relacionar esta disponibilidad con la tarifa de pago efectiva que se estableció con el sistema de pago por SA. Comparar esta tarifa establecida con la tarifa previa que se describe en el literal 13.a)  <b>Without the large sums of financing coming out of the City of New York, coupled with the disproportionate population totals between the regions of service provision (rural/upstate/upstream) and the users of these environmental services (urban/downstate/downstream) is what drives the success of the Watershed MOA programs.</b></p>

	<p>f) Explicar que valores están incluidos en la estimación de la disposición de pago (valores de uso y de no uso) -. <b>Constructing a filtration system for water originating in the Catskills and Delaware River systems, however, was estimated to cost up to \$6 billion; another \$200-\$300 million per year would be necessary for operation and maintenance. The Watershed MOA is estimated to be a \$1.5 billion dollar environmental protection plan.</b></p> <p>g) Relatar si al momento de establecer la tarifa de pago por el SA se tomaron en cuenta aspectos de equidad – cómo se involucraron los usuarios menos favorecidos, cómo se analizó la tarifa qué porcentaje representa frente al ingreso de estos usuarios, etc. –.</p> <p><b>Because of the voluntary nature of the incentive programs and provision of environmental services, the level and satisfactions of participants is what has allowed for the success of the program.</b></p>
<p>17. Marco Institucional para el pago por el Servicio Ambiental</p>	<p>a) Cómo es el sistema de pago a oferentes del servicio ambiental e indicar la fecha en que se dio inicio al sistema (por ejemplo: Pago directo a productores; pago directo a las asociaciones de productores; apoyo técnico o asesoría en legalización o titulación de las propiedades; provisión de servicios sociales e infraestructura; financiamiento de inversión para mejorar el manejo de propiedades o fincas; sobre precios a los productos —con certificación y sellos especiales—; asistencia técnica, capacitación y/o apoyo a la comercialización; apoyo a estrategias comunitarias de turismo rural o ecoturismo; expansión de derechos sobre los recursos naturales; incentivos fiscales, de crédito, o de otro tipo; entre otros).</p> <p><b>Payment for services are made predominantly directly to the producer of the environmental services (farmer, forester, etc). As of 1994, New York City pledged \$35.2 million over a five-year period to ensure that the Watershed Agricultural Program would be available to all watershed farmers. Officially, the requirements for participation are that the farmer cultivate land within the watershed boundaries and that they have a minimum income of \$10,000 in gross annual revenues. However, it is the holders of the land-titles that are responsible for the practices on the land and are, therefore the ones who receive all payments. However, there is a system of payments to encourage land-owners to cede all rights to land development (Forestry and agricultural Easements). Payments are also provided for the development of specialty agricultural markets and producer organizations such as the WAC and others.</b></p> <p>b) dejar claro si el pago se realiza a todos los productores del servicio tengan o no títulos de tierra, o se exige títulos de propiedad. Si éste último es el caso, explicar qué pasa con estas personas que no tienen título.</p> <p><b>Although the majority of programs are geared towards land-holders, the Agricultural Easements Program allows for subsidized transfer of farmland between interested parties, aiding in the upstart costs for sustainable agriculture and other land-use practices.</b></p> <p>c) Especificar qué tipos de oferentes pueden participar como contratantes en el sistema de PSA – oferentes privados individuales, comunidades indígenas, asociaciones de productores, etc. –.</p> <p>d) <b>The PES system is geared towards individual farmers and foresters within the Watershed Region (specifically</b></p>

	<p><b>West of Hudson).</b></p> <p>a) Cómo es el sistema de cobro a demandantes del servicio ambiental. Describir si este sistema es efectivo, si incluye a toda la población objetivo del cobro y si ésta se encuentra al día en los desembolsos.</p> <p><b>Although the program does not include all farmers in the Watershed Region, it has achieved its' membership goals and targeted those farms that have the greatest potential for environmental impact to the watershed as priorities. The goal of the program is to increase both membership and satisfaction with the program in the upcoming years.</b></p> <p>b) Cuál fue la periodicidad del cobro del servicio ambiental que se estableció y describir el vehículo de cobro.</p> <p><b>There is annual review of the creation and implementation of the Whole Farm Plans with continuous assessment and opportunities for feedback from the farmers themselves. Payments are made according to the implementation and cost associated with the individual farmers Whole Farm Plan.</b></p> <p>c) Descripción de los mecanismos institucionales desarrollados para el cobro y pago por el servicio– quién(es) recibe(n) el pago por el servicio ambiental y cómo se administra el sistema (Por ejemplo un fondo administrado por una entidad estatal/fondo administrado por la comunidad, etc.) –.</p> <p><b>Direct payments are made to the farmers themselves as well as in-kind technical support in creating the Whole Farm Plan for their land. Technical support is focused on the farm-level and is provided from local, regional, state-wide and feder. The amount of retribution given is dependent upon the scale of the farm and the costs of implementing the Whole Farms Plan. As was previously mentioned, farms that have in the past had greater contributions to watershed pollution have the most opportunity for assistance. Unfortunately, this means that farmers who have been the most environmentally conscious are often not applicable for assistance from the program.</b></p> <p>d) Reseñar cuál es el mecanismo institucional que hace el seguimiento y control de las prácticas que realizan los productores/oferentes del servicio ambiental (Ej: unidad de control y monitoreo que recolecta información acerca de los cambios en el uso de la tierra y las prácticas de manejo en la finca de los participantes del programa).</p> <p><b>There are annual evaluations of the program from the farmers and foresters, which indicate both their statues and their satisfaction with the program. Concurrently, there is continuous monitoring of the water resources to determine the quality of water resources and the potential for increased/new areas of prevention.</b></p>
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#### D. ESTRATEGIAS

18. Estrategias generales utilizadas	<p>Las estrategias con su respectiva explicación se podrían agrupar en los siguientes ítems (si hace falta un ítem incorpórelo):</p> <p><b>a)</b> Institucionales y legales.</p>
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	<ol style="list-style-type: none"> <li>1. <b>Asses potential sources of water contamination and implement programs to combat these sources;</b></li> <li>2. <b>Ongoing monitoring and collection: security, operations, regulatory compliance, and research;</b></li> <li>3. <b>Identify concern areas for program focus;</b></li> <li>4. <b>Identification and classification of priority areas</b></li> </ol> <p>b) Participación ciudadana y/o empoderamiento de la sociedad civil.  <b>Watershed Agricultural Program (WAP)-serves as an alternative to formal land-use regulations comprised of a membership body (Watershed Agricultural Council), whose membership is constituted by farmers participating in the WAP. WAP has improved the economic well-being of 45% of participating farmers and has had a neutral impact on another 50% of watershed farms.</b></p> <p>c) Alianzas estratégicas y/o mecanismos de relación con diversos niveles de gobierno o sectores —por ejemplo, acuerdos que se establecieron entre usuarios y proveedores del servicio, alianzas para facilitar el uso de ciencia y tecnología, etc. —.  <b>Aliances between government research programs, nonprofit organizations, universities and others with participating farmers, loggers and other watershed partners have allowed for the dissemination of BMP management in the specific fields as well as continued monitoring of the inputs and quality of water resources.</b></p> <p>d) Estrategia financiera (ver pregunta 19).  <b>Funding for the projects come directly from the City of New York as well as private foundations and corporate sponsors.</b></p>
19. Estrategia Financiera	<p>Exponga las otras fuentes de financiamiento que aseguran la sostenibilidad de la experiencia– por otras se refiere a las que complementan la sostenibilidad del sistema, adicional al pago por servicios ambientales –. Documente cada uno de los siguiente aspectos:</p> <p><b>Below is an outline of the grant and marketing-based financial incentives and their sources which are a part of the Watershed MOA program:</b></p> <p><b><u>Forest management</u></b></p> <p><b>FUNDING:</b> Federal and city; U.S. Forest Service and the New York City Department of Environmental Protection</p> <ul style="list-style-type: none"> <li>• <b>Technical support provided by community-based forestry groups and foresters with the New York State Department of Environmental Conservation.</b></li> <li>• <b>Share the costs of Forest Management Plan (for watershed farmers &gt; 10 acres), include questions such as:</b> <ul style="list-style-type: none"> <li>○ <b>How many acres is my forest?</b></li> <li>○ <b>What are my goals for owning the land?</b></li> <li>○ <b>What trees, plants and animals live here?</b></li> <li>○ <b>Are there any threatened or endangered species?</b></li> </ul> </li> </ul>

- How can I keep my forest safe and healthy?
- How can I help conserve soil and protect water resources?
- How much is my timber worth?
- Who can help me steward my forest?

**Conservation Reserve Enhancement Program (CREP)**

**FUNDING:** Federal and city funding; USDA Farm Service Agency (50%), New York City (50%)

- Voluntary program that protects sensitive streamside land by placing it in vegetative buffers for ten to fifteen years
- Farmers receive annual rental payments and reimbursement for establishing good conservation practices: livestock fencing, stream crossings and alternate water sources

**WAC Easement Program**

**FUNDING:** City, New York City Department of Environmental Protection, \$10,000,000

**Agricultural Easements would further the protection of sensitive lands based on water quality criteria, provide added economic incentive to farmers for pollution prevention linked to Whole Farm Plans, and assist the inter-generational transfer of farm lands and operations. The WAC Conservation Easement Program offers landowners an option to permanently conserve their land. A conservation easement is a permanent legal agreement that limits the development and subdivision of property. Under an easement, landowners work the land as they always have. In addition, they may mortgage it, sell it, or leave it to their heirs. The easement remains intact even as the property changes hands.**

**Landowners also retain the rights of use that are spelled out in the easement, including:**

- Use, maintenance and improvements to existing structures; agricultural activities in accordance with a WAC Whole Farm Plan for water quality protection
- Construction, maintenance and improvements of agricultural structures
- Management of forest land and participation in other forestry land uses in accordance with a WAC Forest Management Plan
- Recreational activities such as fishing, hunting, hiking and snowmobiling

**Accompanying easements is the mapping of hydrologically sensitive areas. The maps are then used as a tool for farmers to understand sensitive areas of their own property to be avoided for development and certain agricultural activities harmful to the watershed.**

**Forestry Grants Program (federal funding)**

With federal from the USDA Forest Service Economic Action Program, eligible wood-based businesses in the NYC Watershed regions East and West of the Hudson River are awarded grants to assist in a variety of projects ranging from web-site design and marketing to apprenticeship programs and new equipment. The results are improved safety and efficiency, cutting-edge wood technology and innovative marketing campaigns, all of which emphasize WAC's goal that forestry remain a viable enterprise to protect water and to bolster economic vitality in watershed communities.

**Market Development Initiative (private foundation funding)**

With funds from the Kellogg Foundation, the Council's Natural Resource Viability Program is providing educational and marketing resources to farmers in the Catskill region. The Market Development Initiative is helping farmers with needs in the following areas:

- Packaging and Product Development Financing
- Marketing
- Distribution
- Trade show promotions

Workshops in direct marketing, adding value to products and business planning, along with tours to innovative farms, are some examples of the Initiative's hands-on learning opportunities for farmers. As part this project, WAC is developing a working group of farmers to meet on a regular basis to address needs collaboratively and to learn together. This group will address issues such as farm labor, distribution, and collaborative marketing.

**Farm beautification grants (foundation funding)**

WAC has administered funding from the O'Connor Foundation in Delaware County to over 20 farm operations in the region for beautification of their farmsteads. Recipients of WAC's Farm Beautification grant receive funding for beautification projects that improve or expand their ability to attract sales for their farm operation. Projects include attractive new farms signs, decorative wooden fences, landscaping of the farmstead, and most importantly, the restoration of historic barns and outbuildings to serve as retail space on the farm.

**Fresh food marketing and advertisement (foundation funding)**

A Catskill Region section of FarmToTable.org promotes the New York City watershed region's farm and forest producers to the New York audience. This collaboration is a project of Earth Pledge Foundation, based in New York City, which promotes sustainability through initiatives with farmers, chefs and restaurateurs to promote "green living."

	<p><b><u>Taste of the Catskills</u></b>  Taste of the Catskills food events during the harvest season are designed to provide upstate and downstate "tasters" with an opportunity to connect directly with local farms and the food they grow. These events encompass food shows, farm tours, dinners, media campaigns and exhibits taking place in the Catskills and New York City. Collaborators that help make these promotions possible are the Catskill Revitalization Corporation, Delaware County Chamber of Commerce, Pakatakan Farmers' Market and, most importantly, the chefs and farmers themselves.</p>
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**E. INSTRUMENTOS (Actos legislativos, políticas, programas, proyectos que hacen posible el desarrollo de la experiencia).** En esta sección se debe completar para cada uno de los instrumentos desarrollados en la experiencia. La sinergia de estos instrumentos es la que hace posible el desarrollo de la experiencia.

<p>20. Instrumento</p>	<p>Estos instrumentos se pueden presentar como resultados intermedios (ejemplo: fondo fiduciario para la gestión del cobro y pago de servicios ambientales, creación de un programa de educación ambiental, sistema de información geográfico-SIG, etc.).</p> <ol style="list-style-type: none"> <li>1. <b>Aquisition of watershed lands: Anywhere along watershed areas/lakes/streams/major large pieces of land that would affect quality; (\$250,000,000) committed to the Catskill and Delaware land acquisition VOLUNTARY LAND PROCUREMENT</b></li> <li>2. <b>Watershed Agricultural Program (VOLUNTARY): Extensive regulation of farms within watershed</b></li> <li>3. <b>Enforcement of improved Watershed Regulations</b></li> <li>4. <b>Initiation and Expansion of environmental and economic partnerships</b></li> <li>5. <b>Wastewater Treatment Plant Upgrades</b></li> </ol>
<p>21. Proceso y Metodologías</p>	<p>Proceso y metodologías utilizadas en el diseño y desarrollo del instrumento. El proceso responde a la pregunta: ¿Cómo se realizó?</p> <p><b><u>Farm Best Management Practices</u></b>  <b>Best Management Practices (BMPs) are conservation practices meant to prevent or reduce the amount of pollution generated by non point sources (in this case agriculture) in order to protect and enhance water quality. Many BMPs used in the New York City watershed are standard practices established by the USDA Natural Resources Conservation Service. The Watershed Agricultural Council also develops and implements innovative BMPs based on scientific research and field experience.</b></p>

	<p><b><u>Forest Best Management Practices</u></b>  The Watershed Forestry Program promotes good forestry by training loggers and foresters about best management practices that prevent non-point source pollution. The program also encourages private landowners to become good stewards of forest resources and educates the public about how forests can help protect the water supply. Funding for this partnership program comes from New York City Department of Environmental Protection and USDA Forest Service.</p> <p><b><u>Whole Farm Planning</u></b>  Is a holistic approach to farm management used to identify and prioritize environmental issues on a farm without compromising the farm business. Potential risks to the water supply are identified and addressed through careful structural planning to reduce or avoid the transport of agricultural runoff into farm streams. This is important because this water eventually flows into New York City's water supply reservoirs.</p> <p>The process begins when a farmer signs a voluntary participation agreement with WAC and agrees to develop a Whole Farm Plan in conjunction with a Planning and Implementation Team. Each team is multidisciplinary, and may have representatives from the USDA Natural Resources Conservation Service, Cornell Cooperative Extension and county Soil and Water Conservation Districts.</p> <p><b><u>Logger Training</u></b>  Loggers trained in water quality protection carry out thoughtful planning and building of forest roads, trails, log landings and stream crossings which can prevent or eliminate water quality problems during timber harvests. BMP tools like portable bridges offer loggers a flexible alternative for crossing streams, while geo-textile road fabric helps stabilize roads for hauling timber.</p>
22. Resultado del instrumento	Principal resultado obtenido por el instrumento. <b>50,000+ acres under forest management, 1,404 acres included in stream buffer protection, 13 farms and 4,898 acres participating in conservation easements. NYC was issued a renewal for filtration avoidance in 2002, which is an indicator of the success of the programs encompassed in the Watershed MOA.</b>
23. Tiempo y costo	Número aproximado de meses/años que fueron necesarios para que el instrumento alcanzara su resultado. <b>The development of and participation in the numerous Watershed MOA programs has taken many years to develop. It is necessary for these types of programs to have ongoing participation and satisfaction of the participants, coupled with</b>

	<b>satisfactory environmental results.</b>
24. Población objetivo	<p>Si el instrumento está dirigido a una población específica indique: número de beneficiarios; nivel socio-económico; género y grupo étnico.</p> <p><b>Agriculture is the second highest land-use in the watershed area (forest coverage being the first) and agriculture is the basis of the regional economy. As of 1997, there were approximately 850 farms within the watershed with only 350 earning more than \$10,000 gross annual revenues. For this reason, many of the farmers in the area also have other sources of income to supplement their farming incomes. Participation in the Watershed Agricultural Program is limited to those farmers with at least \$10,000 in gross annual revenues. The basis for this is that larger farms are more likely to be targeted for larger amounts of pollutants, ensuring a greater cost effectiveness for the implementation of the programs. There is also a segment of the program geared towards small farms (\$1,000-\$10,000 in gross annual revenue). As of December 2000, there were 320 farms signed up for participation in the programs, 251 Whole Farm Plans Approved, 175 of which had already begun, 75 Farms substantially complete and 187 Annual Status Reviews conducted throughout. All of these participatory accomplishments exceeded the initial goals of the program.</b></p>
25. Riesgos previstos y obstáculos que se presentaron	<p>Riesgos potenciales que se consideraron al diseñar y desarrollar el instrumento, los obstáculos que se presentaron durante el desarrollo del instrumento y la manera cómo estos se superaron. En caso de que no se pudieran superar los obstáculos, relacionar los motivos y las acciones llevadas a cabo.</p> <p><b>Three main critiques from watershed farmers of the program are: 1) too much money is spent on administration of the program, 2) the program relies too heavily on scientific experts rather than listening to local ideas, and 3) there is a suspicion of New York City's long-run intentions. Additionally, the Watershed Agricultural Program's participation-based evaluations have been found to be insufficient and suggest that water quality measurements be more specific. Another concern is for the continuation and consistency needed in the high level of funding for the programs. It is, therefore, a priority of the program to ensure long-term financial support. There still remains inequity in which farmers that receive the most benefits from the programs: those larger farmers with operations that pose a greater threat of polluting New York City's water supply are most likely to reap the greatest benefits. Although this is an issue for the program, officials still focus funds in this way to get the most efficient use of funds and watershed protection.</b></p>
26. Indicadores y/o estadísticas	<p>Indicadores y/o estadísticas que muestran los resultados del instrumento. (Por ejemplo: número total de recolectores de basura en el municipio —estadística—; número total de recolectores de basura en el municipio/ número total de habitantes —indicador—, incremento de la cantidad o del % de desechos sólidos bajo manejo integral, incremento del % de desechos sólidos recolectados y transportados al relleno sanitario, etc.).</p>

	<p>Of the participants questioned, 44.3% of farmers participating in the WAP believe that the program has had a positive impact on their economic well-being, with 48.6% claiming no impact on their economic well-being associated with the program. There is a relatively high amount of uncertainty among farmers and foresters concerning Agricultural and Forestry Easements, with 29% of farmers willing to participate in easements, 39.1% uncertain and 31.9% not willing to participate (forestry is 30.1%, 41.3%, and 28.6%, respectively). Overall, of participants questioned, 31% said that they were very satisfied with the program and 47.9% were somewhat satisfied. Environmentally speaking, the program has allowed NYC to continue to avoid the federal mandate for a filtration plant, however many organization, such as the Natural Resources Defense Council believes that the City is relying on a strategy of pollution control rather than prevention and needs to increase the quantitative and scientific components of the watershed management program.</p>
<p>27. Métodos de verificación y responsables del Monitoreo y Evaluación</p>	<p><b>The Watershed Programs are monitored through the Watershed Agricultural Committee and other participating organizations. Monitoring includes yearly reports and reponse by all participating farmers alongside ongoing scientific monitoring of the watershed and pollutant sources.</b></p>

#### F. ETAPAS EN QUE SE DESARROLLÓ LA INICIATIVA

<p>28. La experiencia forma parte de una iniciativa mayor o es el producto de iniciativas anteriores</p>	<p>Si la experiencia forma parte de una iniciativa más general o tuvo alguna iniciativa anterior que pueda mencionarse como antecedente relevante para sus logros indique:</p> <ul style="list-style-type: none"> <li>a) Nombre de la experiencia mayor o anterior</li> <li>b) Objetivos</li> <li>c) Dónde se implementó.</li> <li>d) Cuál fue su período de ejecución.</li> <li>e) Cuál fue su contribución a la experiencia, analizando sus similitudes y diferencias con esta última.</li> <li>f) Quién desarrolló esta iniciativa – la misma organización a cargo de la experiencia u otra –.</li> <li>g) Nivel de éxito de la iniciativa respecto a los objetivos planteados, O RAZONES POR LAS CUALES LA INICITIVA FRACASÓ.</li> </ul>

29. Etapas en las que se desarrolló	<p>Si la experiencia se desarrolló en varias etapas se debe indicar para cada una de ellas (Se debe incluir la fase piloto, si existió, y las etapas futuras que estén planeadas):</p> <ul style="list-style-type: none"> <li>a) Nombre de la fase o etapa.</li> <li>b) Objetivos específicos.</li> <li>c) Resultado de la fase o etapa.</li> <li>d) Instrumento(s) desarrollado(s) en esa etapa (Referirse a los Instrumentos referidos en su correspondiente aparte).</li> <li>e) También se debe especificar si se desarrolló alguna etapa piloto para el impulso de la experiencia y las características de esta etapa piloto.</li> </ul> <p>Tenga presente que una experiencia se puede desarrollar en una o varias etapas o fases.</p>
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**G. RESULTADOS**

30. Impactos generados en el medio ambiente y los recursos naturales	<p>Condiciones en el medio ambiente y en los recursos naturales que fueron generadas por el sistema de pago por servicios ambientales. Se debe hacer referencia a lo siguiente:</p> <p><b>The success of the Watershed Agricultural Program is not measured based upon its direct impact on water quality or the economic success of participating farmers; It is measured solely on the number of farmers participating in the program and the number of BMPs that have been implemented. Accordingly, it is outlined in the New York City filtration waiver that the success of the program is measured by:</b></p> <ul style="list-style-type: none"> <li>1) <b>the number of farms participating in WAP,</b></li> <li>2) <b>the number of Whole Farm Plans that have been developed and approved,</b></li> <li>3) <b>the number of Whole Farm Plans that have been implemented, and</b></li> <li>4) <b>the number of Whole Farm Plans for which an annual evaluation has been completed</b></li> </ul> <ul style="list-style-type: none"> <li>a) Mejora en los impactos generados por el uso de la tierra en los procesos hidrológicos (Ver Documento Alpízar, Cua 1. Impactos del uso de la tierra sobre los procesos hidrológicos).</li> </ul> <p><b>Land-use easements has ensured some lands in the watershed from development of any kind. Furthermore, with participating farms, the Conservation Reserve Enhancement Program (CREP) have 10-15 year contracts removing sensitive streamside land out of agricultural production.</b></p> <ul style="list-style-type: none"> <li>b) Mejora en la cantidad (volumen) y calidad (ej. Contenidos de sedimentos, de contaminantes, temperatura, etc.) del a</li> </ul>
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	<p>suministrada.</p> <p><b>The inclusion of Whole Farms Planning to include BMPs for watershed protection focuses much of individual farm planning and development to ensure the quality of water sources. Some of the improvements include building barns and bridges to contain livestock and prevent fecal contamination of water sources as well as buffer zones, decreased chemical use, and other water-quality focused programs. The WAP program does not focus on water quantity.</b></p> <p>c) Mejora en las condiciones de los recursos naturales de la localidad (ej. Preservación de áreas protegidas, protección de biodiversidad, etc.) y en la generación de contaminación (ej. Variación en la generación de residuos, contaminación atmosférica, niveles de ruido y cualquier forma de afectación al ambiente).</p> <p><b>The focus of the WAP program is to ensure the water quality standards for New York City and is not a focus on biodiversity protection or other secondary concerns. However, these concerns are indicators of water quality and are therefore, important in the success of the program as a whole.</b></p> <p>Es importante que los indicadores que se señalaron en la línea base se suministren nuevamente pero con datos recientes, para poder ver la incidencia del producto en estos indicadores. No olvide señalar el año respectivo de cada indicador.</p>
<p>31. Resultados en desarrollo humano</p>	<p>Resultados cuantitativos y cualitativos, incluyendo:</p> <p>a) Número estimado de beneficiarios directos del producto, indicando su nivel socio-económico, género y grupo étnico.</p> <p><b>As of January 2001, 91% of the 350 eligible farms in the watershed had signed up for the WAP program (federal mandate requires a minimum participation of 85%). The program focuses most of its efforts on ‘the greatest offenders’, requiring a minimum annual gross farm revenue of \$10,000 for the WAP program (excluding the Small farms program for those commercial farms grossing \$1,000-\$10,000).</b> Impactos visibles y positivos respecto a la relación pobreza y medio ambiente.</p> <p><b>Many argue that this focus on larger-scale farms is helping to increase the socioeconomic divisions in the region, however, the City has continuously reemphasized the environmental importance (and efficacy for avoiding filtration costs) of focusing on larger-scale, more polluting farms. Unfortunately, this application of funds is, therefore, often ‘rewarding’ the greatest polluters (through giving them the greatest amount of assistance), while neglecting those farms which have developed in more environmentally-conscious ways.</b></p> <p>b) Poblaciones vulnerables (mujeres, grupos indígenas, etc.).</p> <p><b>As previously stated, the watersheds poorest farmers will often not gross enough to be qualified for participation in the</b></p>

	<p><b>WAP program. There is no discrimination concerning race or sex in terms of eligibility or participation. However, some women in the program have expressed concerned for their views not being taken as seriously in the Watershed Agricultural Committee meetings.</b></p> <p>Es importante que los indicadores que se señalaron en la línea base se suministren nuevamente pero con datos recientes, para poder ver la incidencia del producto en estos indicadores. No olvide señalar el año respectivo de cada indicador.</p> <p><b>Qualitatively, program managers will be looking at the level of community "buy-in" to the program, particularly as this is reflected in local implementation and maintenance of management practices. Program effectiveness is assessed quantitatively through extensive water quality sampling both within the city's distribution systems and the upstate watersheds. The city began conducting more intensive sampling around the same time that evaluation and protection of the watershed began, approximately ten years ago in 1991. Because it may take a long time for the system to reach equilibrium, it is difficult to arrive at a meaningful conclusion based on only ten years of extensive sampling. Therefore, the city intends to use the past decade as a baseline for future measurement updates. Also, the city is financing reservoir and terrestrial modeling to understand the system more completely and evaluate program effectiveness (excerpted from EPA website).</b></p>
<p>32. Impactos adicionales en gobernabilidad ambiental</p>	<p>Fortalecimiento de las condiciones de gobernabilidad ambiental. Referirse a los aspectos presentados en el Apéndice.</p> <p><b>The WAP program has continued to allow the City of New York to avoid mandatory filtration of their water supply. The development of upstate-downstate partnerships have served as environmentally favorable relations, while improving some of the interactions between the historically-tense relations.</b></p>
<p>33. Lecciones aprendidas</p>	<p>Enseñanzas metodológicas y conceptuales que se extrajeron de la experiencia desarrollada. En este aparte es necesario presentar las lecciones positivas y las negativas que se obtuvieron en el proceso.</p> <p><b>Via their membership in—and the representation by—the Watershed Agricultural Council, each farmer participating WAP is granted a voice in determining the development of agriculture in the watershed. Through their monthly meetings, committee assignments, and the development of their individual Whole Farm Plans, watershed farmers are able to collectively determine the future of agriculture in the Catskills. WAC has served as important vehicle for facilitating social cooperation, contributing to the overall well-being of the community</b></p>
<p>34. Desafíos</p>	<p>Aspectos que se pueden mejorar dentro de la experiencia y los nuevos aspectos que se deben incorporar.</p>

	<p>The costs of the Watershed Agricultural Program have offset the savings realized by the City when compared to the \$6 billion that it would have cost to construct a filtration system for water originating in the WOH watersheds. Nonetheless, the \$39.2 million that New York City has invested in WAP over the past nine years—not to mention the cost of the supporting agricultural initiatives and other programs included in the \$1.5 billion MOA—represent a significant financial commitment to water quality. In real terms, the cost of the City’s management plan is substantial. It is doubtful that governments in less affluent parts of the world would have the luxury of making such a large financial commitment to a PES program. The continuation of funding for this type of program is a continual concern for the program and its success.</p>
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**H. ACTORES**

Esta información es sólo para los actores claves que estuvieron vinculados en la concepción, financiamiento, desarrollo y/o operación de la experiencia (Esta encuesta se debe llenar para cada uno de los actores claves)

<p>35. Nombre del actor</p>	<p>Nombre de la institución, entidad, organización, etc.</p> <p>Below is a list of some of the key participants in the ongoing watershed programs:</p> <p><b><u>Federal Government</u></b>          USDA Natural Resource Conservation Service          US Environmental Protection Agency          US Department of Health          US <b>Farm Service Agency</b></p> <p><b><u>State Government</u></b>          New York State Department of Health  <b>New York State Department of Environmental Conservation</b>  <b>New York State Environmental Facilities Corporation</b>          New York State Department of State  <b>New York State Environmental Facilities Corporation</b></p>
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	<p>NYS Department of Agriculture and Markets</p> <p><b><u>New York City and other Government</u></b>  NYC Department of Environmental Protection  Delaware County Department of Watershed Affairs</p> <p><b><u>Not-for-profit and other organizations</u></b>  American Water Works Association  Open Space Institute  Trust for Public Land  The Nature Conservancy  New York Water Environmental Association  Catskill Center for Conservation and Development  Catskill Watershed Corporation  Riverkeeper  New York Public Interest Research Group  County Soil and Water Conservation Districts  Watershed Protection and Partnership Council  <b>Watershed Agricultural Council (WAC)</b> -- consisting primarily of watershed farmers and agribusiness leaders, with a representative from the NYC DEP, the WAC maintains open lines of communication with farmers and the NYC DEP throughout the watersheds  <b>The Center for Watershed Protection</b>  <b>The Stroud Water Resource Center</b>  <b>Westchester Land Trust</b>  <b>Federated Conservationists of Westchester County, Inc. (FCWC)</b></p> <p><b><u>Academic Institutions</u></b>  Cornell Cooperative Extension  NYS Water Resources Institute</p>
36. Sector	See above <ul style="list-style-type: none"> <li>• Público.</li> </ul>

- Privado.
- ONG (nacional o internacional).

**American Water Works Association**

**Open Space Institute**

**Trust for Public Land**

**The Nature Conservancy**

**New York Water Environmental Association**

**Catskill Center for Conservation and Development**

**Catskill Watershed Corporation**

**Riverkeeper**

**New York Public Interest Research Group**

**County Soil and Water Conservation Districts**

**Watershed Protection and Partnership Council**

**Watershed Agricultural Council (WAC) -- consisting primarily of watershed farmers and agribusiness leaders, with a representative from the NYC DEP, the WAC maintains open lines of communication with farmers and the NYC DEP throughout the watersheds**

**The Center for Watershed Protection**

**The Stroud Water Resource Center**

**Westchester Land Trust**

**Federated Conservationists of Westchester County, Inc. (FCWC)**

- Sociedad civil.

**USDA Natural Resource Conservation Service**

**US Environmental Protection Agency**

**US Department of Health**

**US Farm Service Agency**

**New York State Department of Health**

**New York State Department of Environmental Conservation**

**New York State Environmental Facilities Corporation**

**New York State Department of State**

**New York State Environmental Facilities Corporation**

**NYS Department of Agriculture and Markets**

**NYC Department of Environmental Protection**

**Delaware County Department of Watershed Affairs**

	<ul style="list-style-type: none"> <li>• Comunitario.</li> <li>• Grupo indígena.</li> <li>• Organismos de cooperación internacional.</li> <li>• Universidad, centro de investigación.</li> </ul> <p><b>Cornell Cooperative Extension</b>  <b>NYS Water Resources Institute</b></p> <ul style="list-style-type: none"> <li>• Otro (explique cuál).</li> </ul>
<p>37. Facultades del actor para el manejo de los temas abordados en el sistema de pago por SA<sup>4</sup></p>	<p>Indique las respectivas facultades del actor.</p> <p><b>Members of the Whole Farms Planning Team:</b>  <u>Farmers</u>-they are the focus of the WAP program and participate on a voluntary basis.  <u>USDA Natural Resources Conservation Service</u>- a source of technical and scientific expertise for WAP, especially regarding BMPs. Has a long history of commitment to locally-led conservation efforts.  <u>Soil and Water Conservation Districts</u>-Grassroots organizations created by each individual county in New York State. Mission is to supply technical expertise to farmers on soil and water conservation issues.  <u>Cornell Cooperative Extension</u>-Provide technical and managerial expertise to assist farmer in meeting their missions and objectives.</p> <p><b>Other Key Actors:</b>  <u>New York State Department of Environmental Protection</u>- protects water quality in lakes, rivers, aquifers and coastal areas by regulating wastewater discharges, monitoring waterbodies and controlling surface runoff; provides technical assistance and education; manages freshwater resources; and helps prevent flood damage and beach erosion.</p> <p><u>New York State Department of State (DOS)</u> is a partnership agency under the New York City Watershed Memorandum of Agreement (MOA). The DOS Division of Local Government has offices at the Catskill Watershed Corp. in Margaretville.</p>

<sup>4</sup> Por ejemplo, el Ministerios de Medio Ambiente en Colombia tiene la facultad de definir las políticas ambientales, sin embargo, el Ministerio no siempre tiene la capacidad financiera para implementar estas políticas

	<p><b>Pursuant to the MOA, the Department administers the Master Planning and Zoning Incentive Award Program for the NYC Watershed. This program is designed to assist watershed municipalities in preparing or updating comprehensive plans, establishing or revising community development tools and local laws, and creating strategic plans for hamlets, villages, and other potentially developable areas within the West-of-Hudson (WOH) Watershed.</b></p> <p><b>Also pursuant to the MOA, the Department serves as a "One Stop Shop" for regulatory information in the WOH Watershed in order "to assist the regulated community in identifying governmental permits required to implement a regulated activity in the Watershed." Department staff can provide information and assistance on planning, zoning land use, related funding sources, and project implementation.</b></p> <p><b><u>Watershed Agricultural Council</u>- their mission is to assist the agricultural and forestry communities in the New York City watersheds to adopt the best management techniques that protect water quality and enhance economic viability. The Watershed Agricultural Council is a non-profit, non-governmental organization with 501(c)(3) tax-exempt status.</b></p> <p><b>Please go to the website of other organizations listed above for more information on their involvement in the program.</b></p>
38. Capacidades del actor para el manejo de los temas abordados en el sistema de pago por SA	Indique las respectivas capacidades técnicas, financieras, políticas, institucionales, etc. del actor <b>See above</b>
39. Rol del actor en el sistema de pago por SA	Indique el rol del actor. Este puede ser: <ul style="list-style-type: none"> <li>• Un usuario / comprador del servicio ambiental.</li> <li>• Un proveedor del servicio ambiental.</li> <li>• Una institución / organización intermediaria entre los usuarios y los proveedores del servicio ambiental.</li> </ul> <b>See above</b>
40. Recursos invertidos por el actor en el desarrollo del	Indique los recursos invertidos por el actor.

sistema de pago por SA	<p><b>Estos recursos se deben suministrar en US Dólares (USD) y se debe señalar la tasa de cambio y la fecha en que estaba efectiva esa tasa de cambio.</b></p>
41. Datos del primer contacto:	<p>For further information contact:  Anne Seely, Section Chief Drinking Water Quality Planning  Bureau of Water Supply  New York City Department of Environmental Protection  (718) 595-5346</p>
42. Datos del segundo contacto:	<p>David Warne, Special Assistant to the Deputy  Commissioner for the Bureau of Water Supply  New York City Department of Environmental Protection  (914) 742 2099</p> <p>Jeff Ryan, Press Secretary  New York City Department of Environmental Protection  (718) 595-6600</p>

**I. REPLICABILIDAD DE LA EXPERIENCIA**

43. Réplica de la experiencia de pago por SA	<p>Si la experiencia desarrollada se ha replicado en otro lugar se debe indicar:</p> <p>Para réplicas exitosas:</p> <ul style="list-style-type: none"> <li>a) Qué se replicó de la experiencia desarrollada.</li> <li>b) Quién lo replicó.</li> <li>c) Cuándo lo replicó.</li> <li>d) Dónde se replicó.</li> </ul>
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	<p>e) Cuáles fueron los principales resultados de esta réplica.  f) Cómo se desarrolló la transferencia de conocimiento.  g) Cómo fue el contacto inicial para hacer la réplica.</p> <p>Para tentativas de réplica:</p> <p>a) Qué se replicaría de la experiencia desarrollada.  b) Quién lo replicaría.  c) Cuándo se replicaría.  d) Dónde se replicaría.  e) Cuáles fueron los principales motivos para que esta réplica no se llevara a cabo.</p>
<p>44. Capacidades y aspectos claves para la transferibilidad</p>	<p>Aspectos claves y capacidades imprescindibles para que una transferencia de la experiencia sea exitosa — aspectos políticos, institucionales y legales, financieros y económicos, administrativos y técnicos, de administración de recursos, entre otros —. Tenga presente que las capacidades las deben tener los actores de la localidad en la cual se va a hacer la transferencia. Se debe hacer referencia, por ejemplo, a la cantidad de recursos de cierto tipo que debe tener una localidad, para que ésta pueda prestar el servicio ambiental.</p> <p><b>Although there are many aspects of the New York City MOA that are beneficial examples of environmental service agreements, BMPs concerning watershed protection, and downstream/upstream or rural/urban watershed partnerships and incentive systems, the costs associated with the application and enforcement of these programs are problematic for its replication in other regions, particularly in developing countries. However, the provision of environmental services by a rural, upstream population to the metropolitan region is a likely base for replication. The specifics of the NYC MOA were driven by a long history of conflict and mistrust by upstate communities of the City, as well as federally mandated water quality standards, and the large financial resources of the City of New York.</b></p>

**J. INFORMACIÓN SOPORTE**

45. Metodologías utilizadas

Anexe las encuestas, módulos de capacitación, términos de referencia, diseño de talleres, listas de temas para los grupos de trabajo, definición del valor de un servicio ambiental, etc.

**Catskill Watershed Corporation (CWC) [www.cwconline.org](http://www.cwconline.org)**

**Hamilton, Rabinovitz, and Alschuler, Inc. 1999. *West of Hudson Economic Development Study for the Catskill Watershed Corporation: Final Economic Study for the Catskill Fund for the Future*. Prepared for the Catskill Watershed Corporation, July 26, 1999.**

**Isakson, Ryan S. January, 2002. *Payments for Environmental Services in the Catskills: A socio-economic analysis of the agricultural strategy in New York City's watershed management plan*. Prepared as part of the "Payment for Environmental Services in the Americas" Project.**

**Markert, K. and W. Moon. 1991. "Economic Development in New York City Watersheds: An Assessment of the Prospects for Delaware County." *Perspective*, in *Newsletter* 1(3):3-5. Center for Economic and Community Development, SUNY College at Oneonta, NY.**

**National Academy of Sciences (NAS). 2000. *Watershed Management for Potable Water Supply: Assessing the New York Strategy*. Washington, DCL National Academy Press.**

**New York City Department of Environmental Protection (NYC DEP). 2000. *New York City's Water Supply System*. Internet Site: [www.ci.nyc.us/html/agreement.html](http://www.ci.nyc.us/html/agreement.html)**

**Pfeffer, M.J. and L.P. Wagenet. 1999. "Planning for Environmental Responsibility and Equity: A Critical Appraisal of Rural/Urban Relations in the New York City Watershed," in M.B. Lapping and O. Furuseth (eds.), *Contested Countryside: The Rural Urban Fringe of North America*. Brookfield VT: Ashgate Publishing Company.**

**United States Department of Agriculture (USDA). 1998a. "Fact Sheet: Conservation Reserve Program-New York City Enhancement Program." Farm Service Agency, August 1998.**

**Watershed Agricultural Council (WAC). *Watershed Agricultural Council: Promoting Whole Farm Planning in the Catskill Region*. Internet Site: [www.nycwatershed.org](http://www.nycwatershed.org).**

46. Normatividad vigente que regula al producto

Relacione toda la normatividad vigente y anexe los documentos que considere necesarios

