

Putting old wine in new bottles? The challenges of participatory sciences

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Paris Risk Group Workshop

Berlin, June 3rd, 2016



[Tools](#) | [Data](#) | [Network](#)
PlantNet-Mobile
Pictoflora
DataManager

Interactive plant identification
and
collaborative information system



News

Participez au défi de la rentrée !

Depuis plus de 4 ans les travaux des contributeurs du projet Capitalisation d'Images ont permis l'enrichissement de la base d(...)

Des outils collaboratifs au service de la botanique

C'est grâce au soutien de nos contributeurs que nous avons réussi à mettre au point ces trois outils tout(...)

Présentation de l'application Pl@ntNet-mobile aux 3^e Assises de la Biodiversité

Les équipes du projet Pl@ntNet (Tela Botanica, l'AMAP et l'INRIA) ont présenté en avant-première (...)



500 000 **nutrinautes**
pour étudier les relations
entre la nutrition et la santé



ACCÈS MEMBRE

Identifiant

Mot de passe

OK

[Identifiant oublié ?](#)

[Mot de passe oublié ?](#)

[Je m'inscris](#)

[Accueil](#)

[Pourquoi l'étude NutriNet-Santé ?](#)

[Objectifs de l'étude](#)

[L'étude NutriNet-Santé en bref](#)

[Qui peut participer ?](#)

[Pourquoi participer ?](#)

[Comment s'inscrire ?](#)

[Mode d'emploi](#)

[Qui coordonne ?](#)

[Partenaires ? Qui finance ?](#)

[Actualités de l'étude](#)

[NutriNet-Santé dans la presse](#)

[Foire aux questions](#)

[Vidéos NutriNet-Santé](#)

[ESPACE MEMBRE](#)

Vous avez perdu votre identifiant ? [Ecrivez au support NutriNet.](#)

Bienvenue sur le site de l'ÉTUDE NUTRINET-SANTÉ

Une cohorte de **500 000 Nutrinautes**
pour faire progresser la recherche publique
sur les comportements alimentaires et les
relations Nutrition-Santé

Rejoignez-nous ! Inscrivez vous !

[Je m'inscris](#)

1

Répondez aux questions de base sur

- vos comportements alimentaires,
- votre activité physique,
- votre profil,
- votre mode de vie
- et votre état de santé



[Voir la vidéo de présentation](#)



ComMod
Modélisation d'accompagnement

Who are we? | Case Studies | Documents | Models | Documents | Training

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FR

ComMod : a Companion Modelling Approach

Since 2000, some researchers working in the field of renewable resource management have been using various tools, particularly Agent-Based Models and Role-Playing Games, to tackle issues regarding decision processes, common property, co-ordination among actors, etc. Dealing with models and games has been a mean to cross disciplines boundaries and to acknowledge the complex nature of the systems under study. This choice led us to formalise our relation to modelling within what we called a *companion modelling* approach.

At a time when models and simulations to tackle complexity and for decision support are flourishing, this group of researchers found important to specify the contents of this approach, which should be understood as a scientific posture more than a modelling handbook. Modelling is merely an intermediary object facilitating our collective and interdisciplinary thought.

Training sessions (post-graduate schools) are regularly organized, in France and abroad. The next session in English will be in Wageningen (the Netherlands) from June 26th - July 1st, 2016 (more info and registration [here](#)). The next session in French will be in Chateaufort de Gadagne (South of France) from September 26-30, 2016 (more info: [contact Elsa](#)).

A [charter](#), written in April 2004, presents the posture and the main principles in a text that has to be taken as a starting





Mission Science Participative (for the Ministry of Education and the Ministry of Research)



① **Etat des lieux** et méthodes

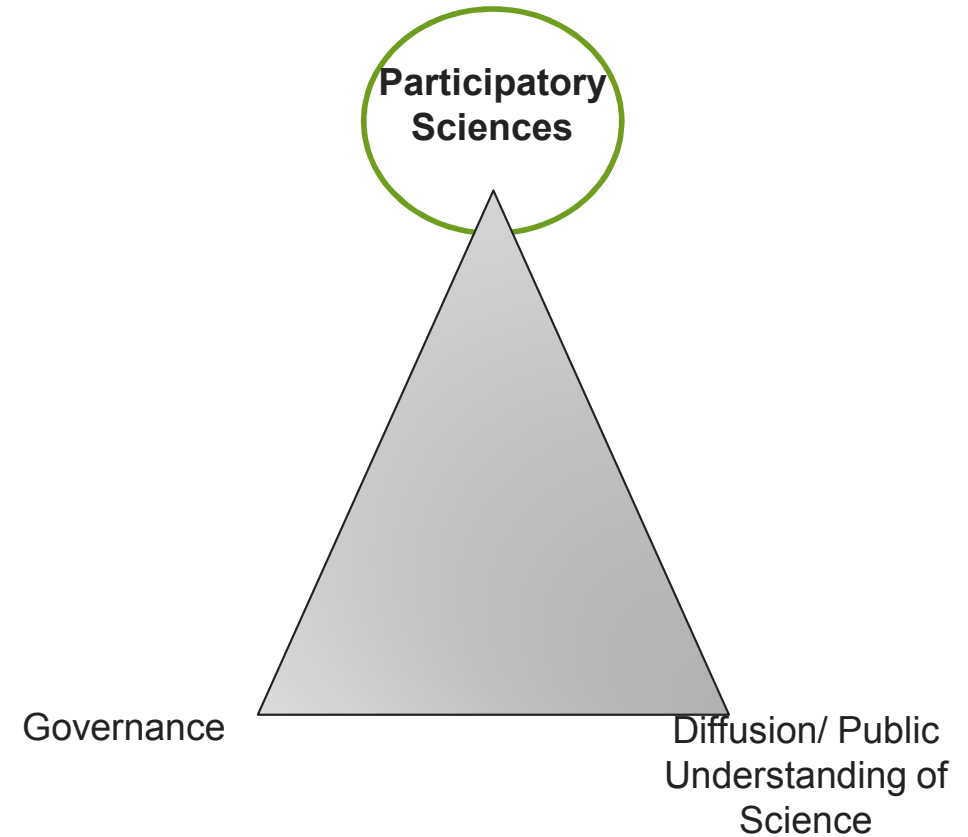
② **Bonnes pratiques** pour les porteurs de projet

③ **Recommandations** aux institutions

④ Annexes

<http://www.sciences-participatives.com/Rapport>

Engaging the society?
The science in society triangle



Participatory sciences:

Definition: Modes of production of scientific knowledge where non-professional-researchers – individuals or groups- participate in an active and deliberate way.

Related expressions : Citizen sciences, Participatory Action Research, crowdsourcing, etc.

Scientometric analysis

Keyword search:

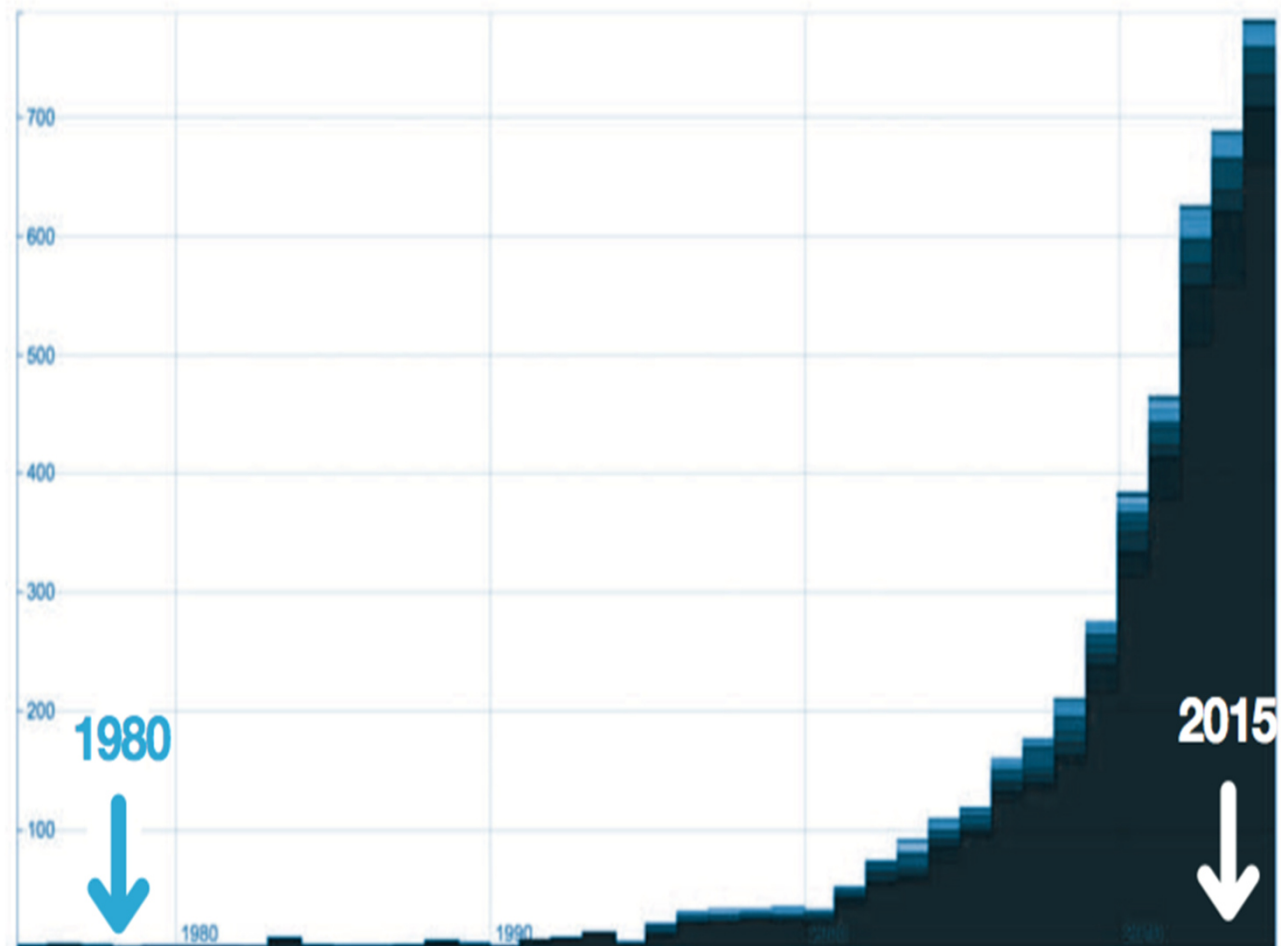
TS = (“science” OR “scientific” OR “research”) AND (“crowdsourcing”) OR «crowd science» OR «participative research» OR «participatory research» OR «citizen science»

open innovation

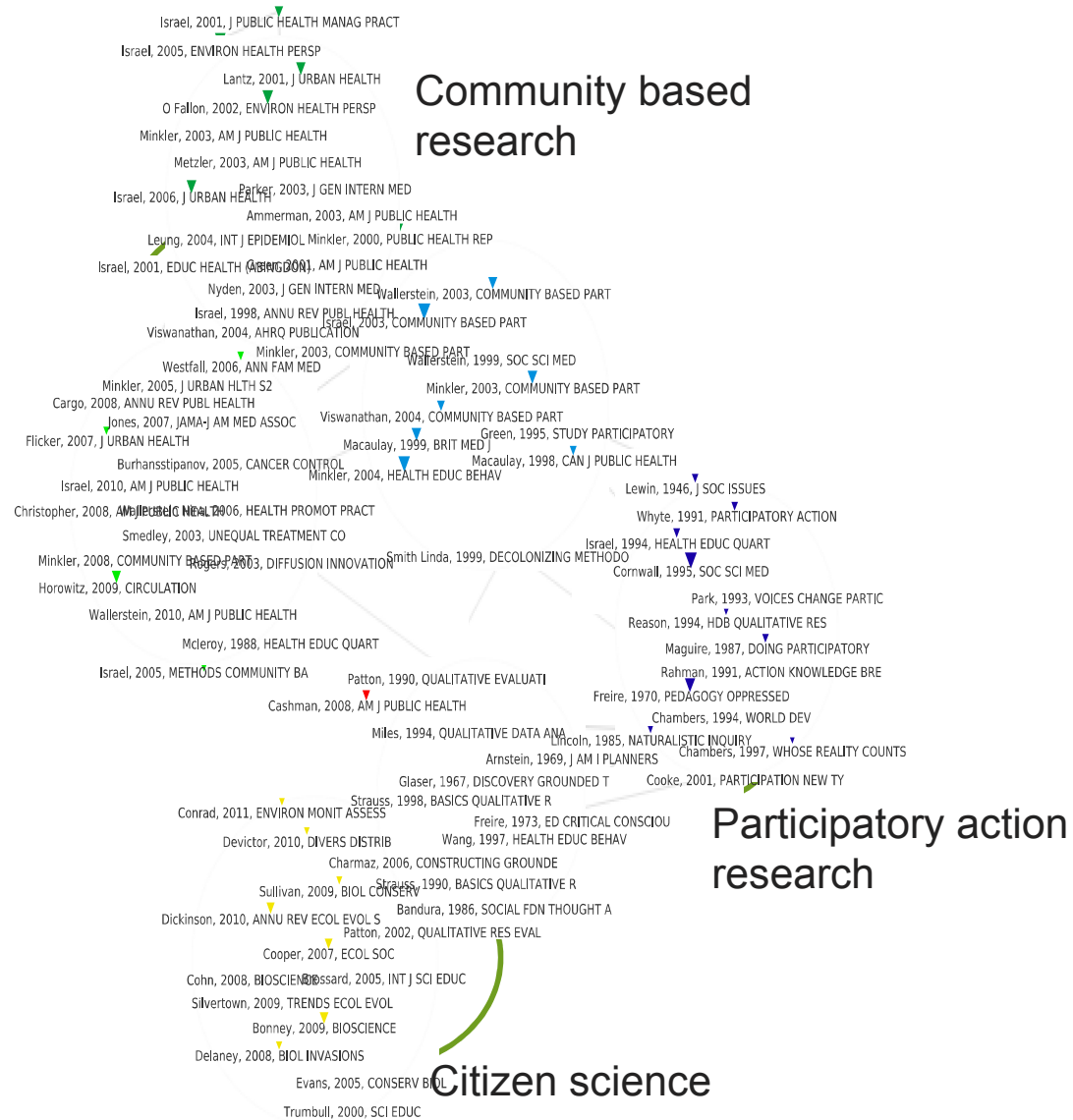
participatory approach

crowdsourcing

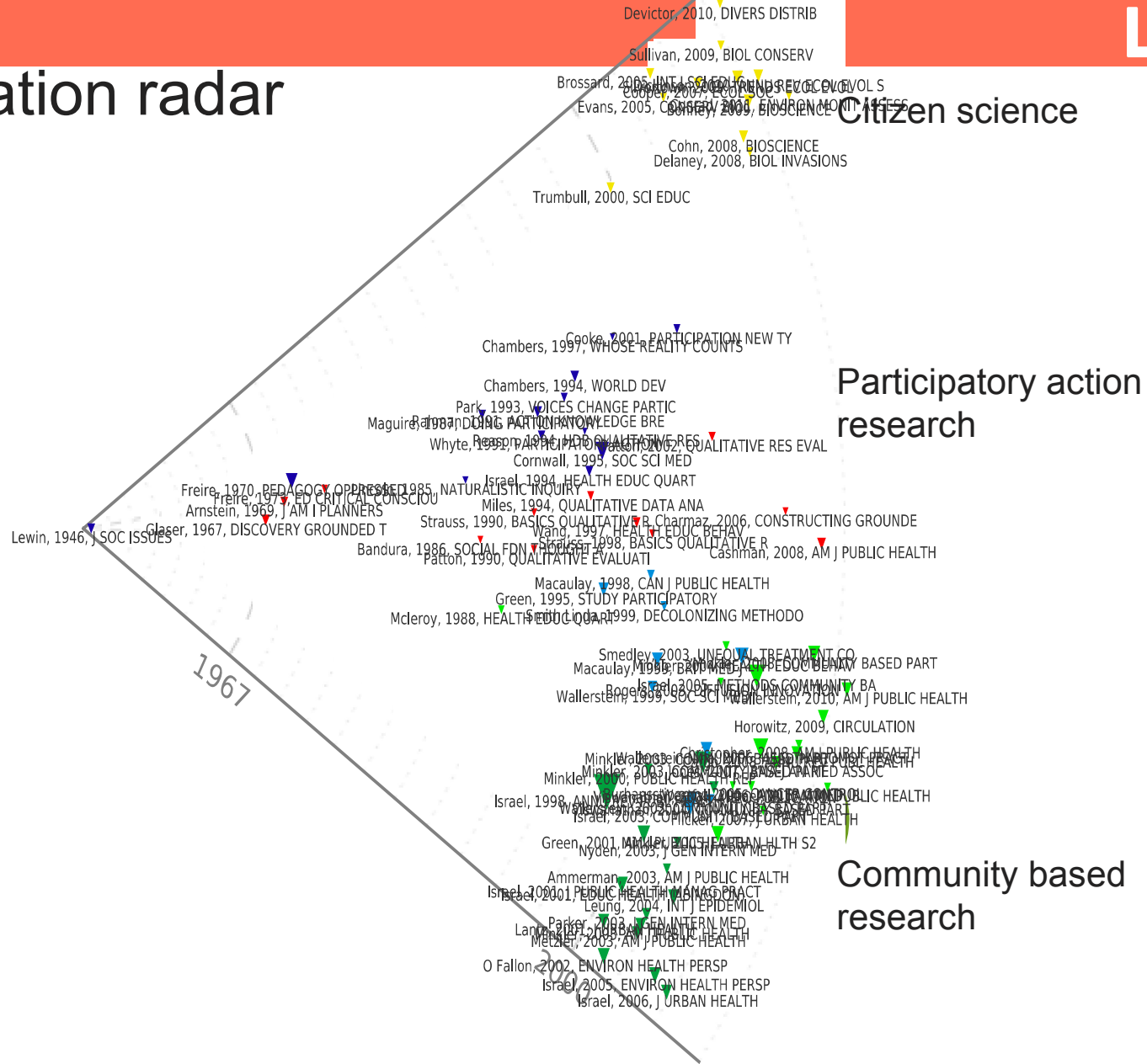
Évolution du nombre de publications en sciences participatives dans le monde



Co-citation map



Co-citation radar



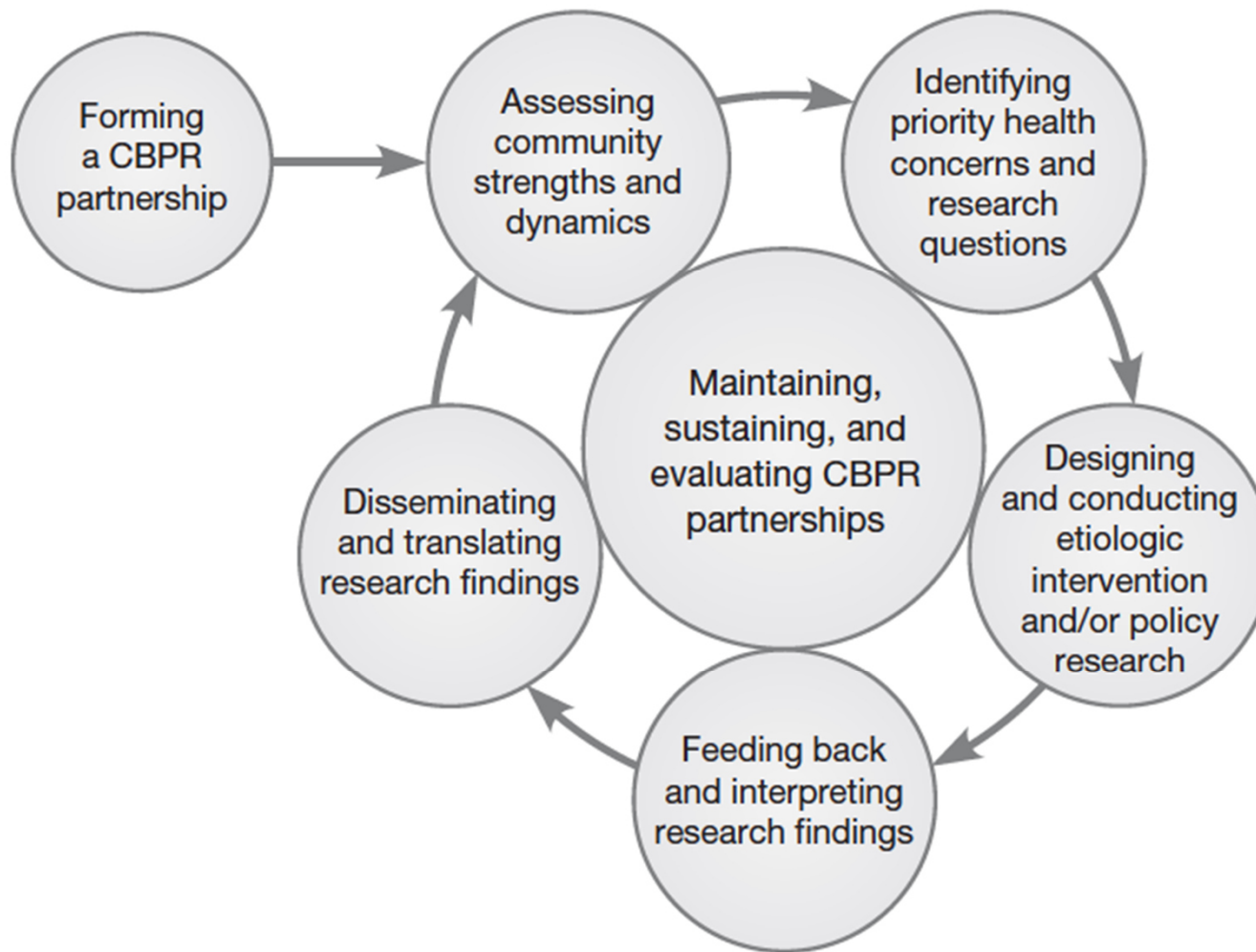
A tentative typology

	Citizen Science	Community Based Research	Participatory Action Research
Definition	Collect of data by citizens	Communities involved in diagnosing problems	Collaboration of groups to solve problems
Motivation	Curiosity, impact	Well being, solving problems, recognition	Addressing societal or scientific challenges
Objectives	Production of knowledge and indicators	Production of actionable knowledge, empowerment	Innovation, social transformation
Main Areas	Environment, astronomy, biodiversity	Public health, education, social work	Agriculture, resource management, urban issues

CBPR in public health is a partnership approach to research that equitably involves, for example, community members, organizational representatives, and researchers in all aspects of the research process and in which all partners contribute expertise and share decision making and ownership (Israel et al., 1998, 2008).

The aim of CBPR is to increase knowledge and understanding of a given phenomenon and integrate the knowledge gained with interventions and policy and social change to improve the health and quality of life of community members (Israel et al., 1998, 2008).

FIGURE 1.1 Core Components/Phases in Conducting CBPR

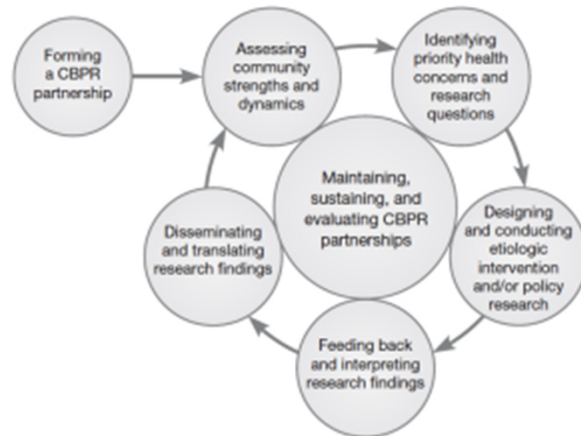


Source: Israel, B. A., Coombe, C., & McGranaghan, R., 2010.

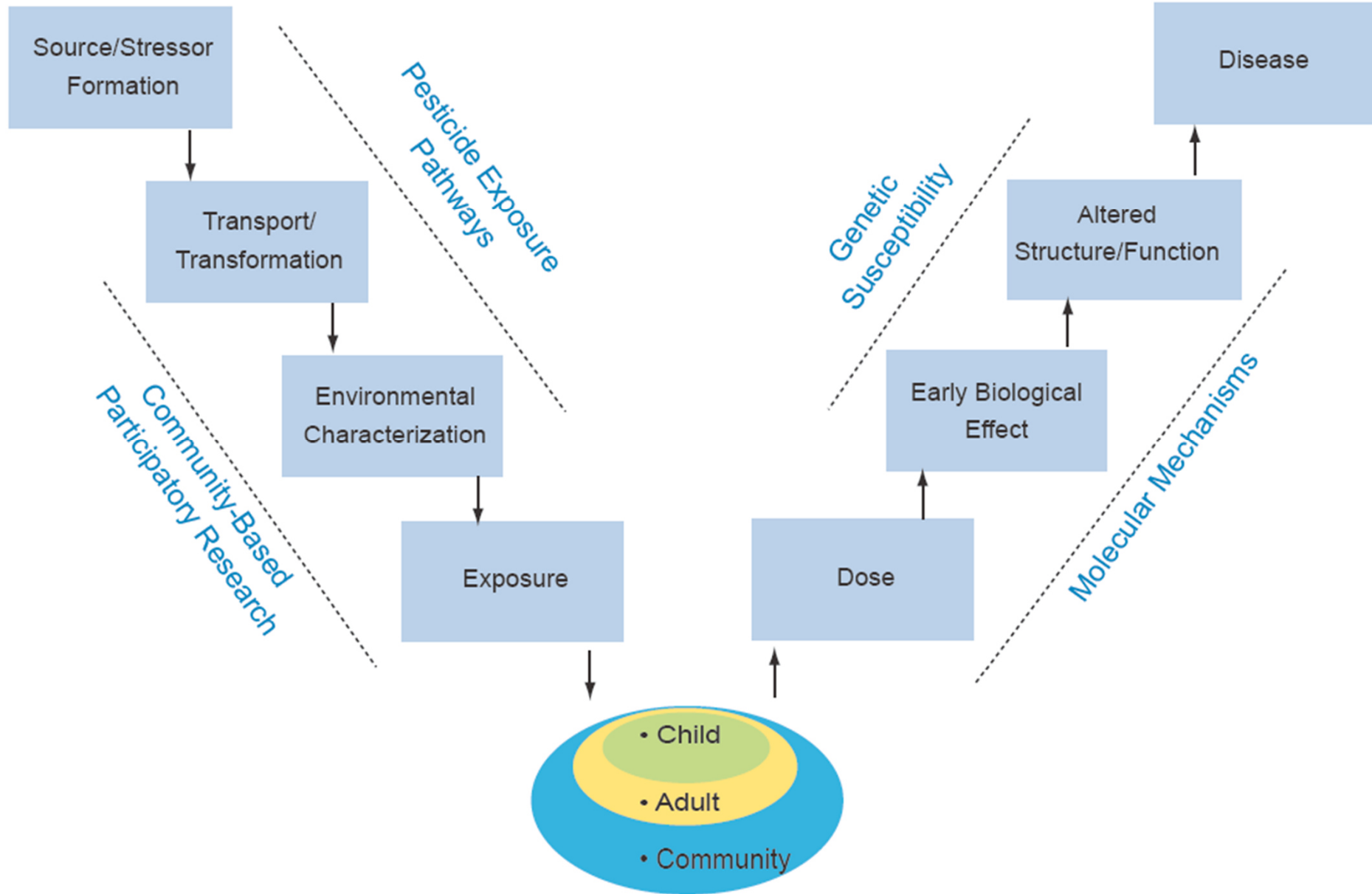
9 Principles of CBPR:

1. acknowledges community as a unit of identity
2. builds on strengths and resources within the community
3. facilitates a collaborative, equitable partnership in all phases of research, involving an empowering and power - sharing process that attends to social inequalities
4. fosters colearning and capacity building among all partners
5. integrates and achieves a balance between knowledge generation and intervention for the mutual benefit of all partners
6. focuses on the local relevance of public health problems and on ecological perspectives that attend to the multiple determinants of health
7. involves systems development using a cyclical and iterative process
8. disseminates results to all partners and involves them in the wider dissemination of results
9. involves a long - term process and commitment to sustainability

FIGURE 1.1 Core Components/Phases in Conducting CBPR



Source: Israd, B. A., Coombe, C., & McGranahan, R., 2010.



Introduction to participatory epidemiology

Barbara Wieland (ILRI)

Livestock and Fish participatory epidemiology and gender training workshop, Addis Ababa, 15-19 June 2015



Benefits and risks (1)

Benefits of participatory science

Knowledge production:

- Reduced costs of data collection (crowdsourcing)
- Time gain related to crowd effects (gaming,...)
- Access to a diverse set of competences and knowledge necessary to address complex problems
- Access to data that would not be available otherwise

Social and societal benefits:

- Education, public understanding of science
- Problems addressed and solved, empowerment of concerned groups
- Improvement of conditions of implementation
- Improvement of citizenship

(*'Citizens create knowledge, knowledge create citizens'*, European association for Citizens science)

Benefits and risks (2)

Possible risks

Methodological

- Quality of data and protocol
- Completeness of experimental plans

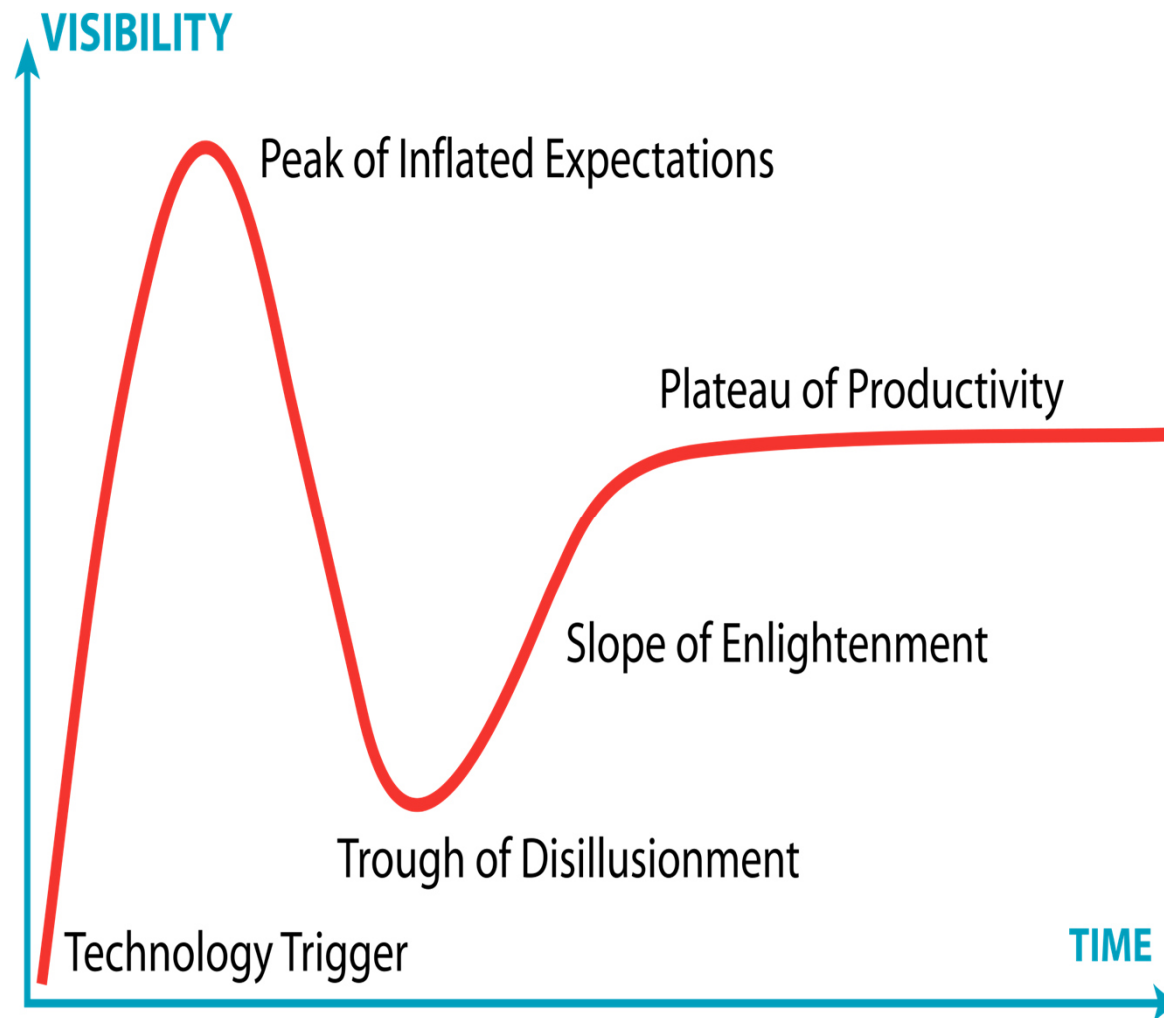
Deontological

- Scientific rigor
- Research autonomy

Ethical

- Mutual respect
- Acknowledgment and recognition of contributions
- Transparency of method, protocol and use of data

Avoid Gartner Hype/Hope/Disillusionment Cycle!!!



Conclusions

A key challenge: Fostering science/society interactions

A long tradition of participatory sciences

A renewed interest because of:

- Challenges : complex problems and transformative changes
- Level of education and the will of citizens to participate
- Digital technologies

Sustainable development of participatory sciences: need to limit the risks for reaping the benefits and!

Some actions may contribute to this goal (Rapport Houllier 2016):

3 levers

- Strengthen the research community
- Adapt technical means (including funding schemes)
- Bridge PS and school education

A number of actions to be taken

- Créer une charte
- Déployer un portail internet national
- Mettre en place un réseau national pour le suivi et la mutualisation
- Adapter les critères d'évaluation des personnels
- Formaliser le partage des bénéfices et de la propriété des données
- Reconnaître et outiller les enseignants engagés, etc.



Thanks for your attention!

