

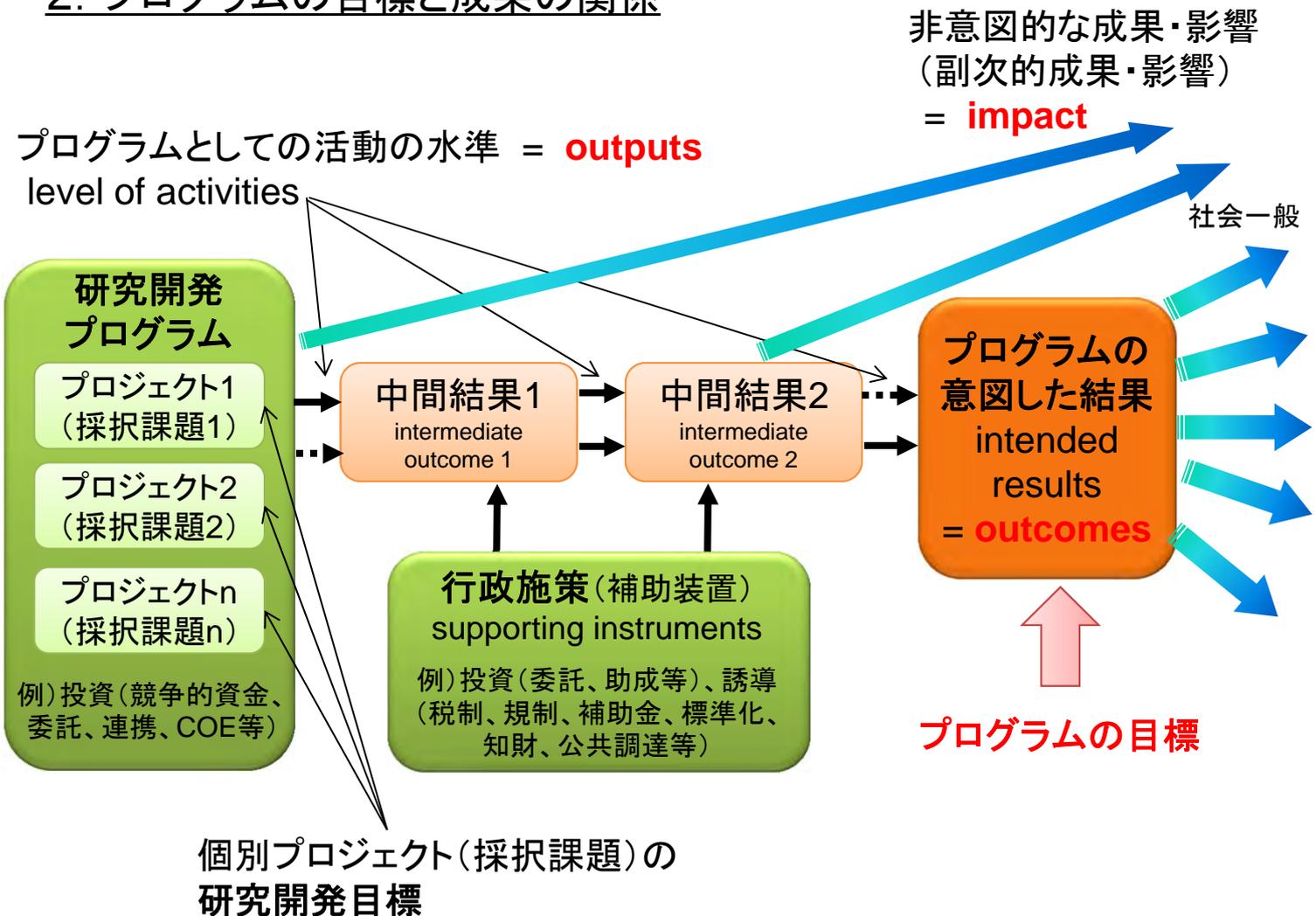
プログラムの特性別にみたアウトカム指標の考え方と事例

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1. 研究開発プログラムの類型

- ① **科学的価値**の創出を目的とするプログラム(研究開発型)
 - ・ 基礎研究の振興
 - ・ 学際的研究の振興、等
 - ② **経済的／社会的価値**の実現を目的とするプログラム(ミッション型)
 - ・ 経済的価値の実現
 - ・ 社会的問題解決への貢献
- ・ いずれのタイプも固有の政策的目標を持つ。
 - ・ プログラムの目標を具現化した項目をアウトカム(指標)として設定する。

2. プログラムの目標と成果の関係



①R&D型(科学的価値の創出を目的とするプログラム)

プログラムの目標

- 1) 研究者の自由な発想に基づく研究の多様性の確保
例. 科研費・基盤研究
- 2) 若手研究者の自立支援
例. 科研費・特別研究員奨励費
- 3) 共同研究等による新領域形成や領域の格段の進展
例. 科研費・新学術領域研究

副次的成果・影響
= **impact**

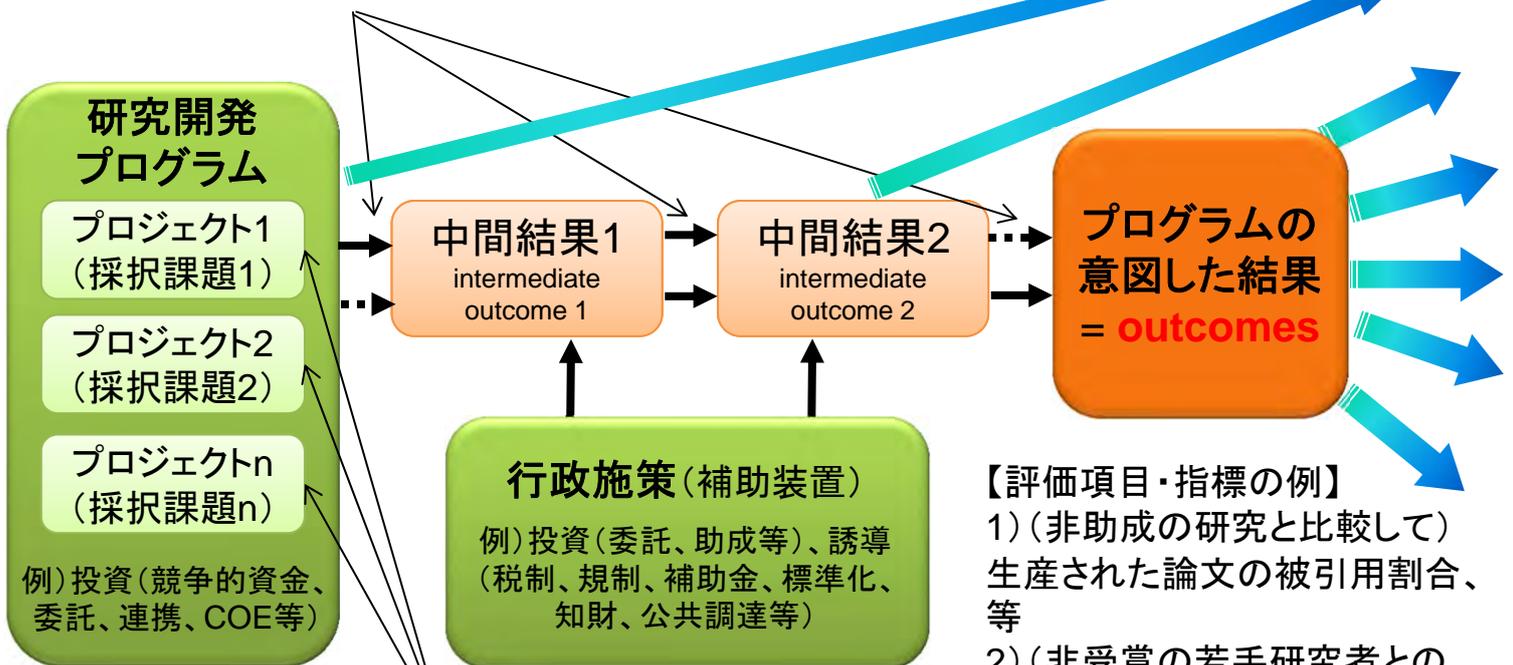
プログラムとしての活動の水準 = **outputs**

【評価項目・指標の例】

助成した研究成果が産業化や生活の質の向上につながった顕著な事例
研究者人口の増加
権威のある国際的学会賞等の受賞事例、等

【評価項目・指標の例】

- 1) 応募数／応募資格者数の推移、第三者による研究分野ポートフォリオの適切性の判定、等
- 2) 受賞者の満足度、等
- 3) 異分野間の共同研究プロジェクトの割合、新たな学会の設立数、等



個別プロジェクト(採択課題)の研究開発目標

【評価項目・指標の例】

(アウトプット) → (アウトカム)
論文数 → 論文の被引用数

【評価項目・指標の例】

- 1) (非助成の研究と比較して)生産された論文の被引用割合、等
- 2) (非受賞の若手研究者との比較で)テニュアトラックを獲得した研究者の割合、次ステージの助成金の獲得割合、等
- 3) 新領域への研究者の参入数の推移、第三者による領域発展への寄与の度合いの判定、等

米国・全米科学財団 (NSF) 評価フレームワーク (Assessment Framework) の例

NSF ASSESSMENT FRAMEWORK: TIME FRAMES AND POTENTIAL APPROACHES		
NEAR-TERM	MID-TERM	LONG-TERM
TYPICAL TIME FRAMES: <ul style="list-style-type: none"> Annual for business process measures 1-2 years for establishing baselines 	TYPICAL TIME FRAMES: <ul style="list-style-type: none"> 2-5 years Roughly parallel to durations of NSF awards 	TYPICAL TIME FRAMES: <ul style="list-style-type: none"> 5-10 years Following the period of NSF investments
OVERALL FOCUS: NSF PORTFOLIO DEVELOPMENT – Portfolio and customer service measures.	OVERALL FOCUS: NSF PORTFOLIO MONITORING – Activities to monitor NSF investments and investment strategies.	OVERALL FOCUS: INVESTMENT, RETURNS, RESULTS, AND OUTCOMES – Retrospective impact assessments, especially in areas of focused or sustained NSF investment.
<ul style="list-style-type: none"> Timeliness (customer service/turn time) Key award trends (size, duration, funding rate) Key broadening participation trends (especially outreach, reviewers, and applicants) Development/implementation of strategies, initiatives Use of novel mechanisms in merit review Planning and baselining 	<ul style="list-style-type: none"> Financial measures (draw down of funds at expected rates) Award monitoring (project reports, site visits, principal investigator meetings) Interim reviews (COV processes) Project/program-specific measures (construction projects, large-facility operational measures) Development of partnerships (federal, state, and local agencies; nonprofit and for-profit industry; international governments and businesses) 	<ul style="list-style-type: none"> Knowledge impacts (new fields, transformation of existing fields) Economic impacts (overall returns, knowledge transfer across sectors) People impacts (career trajectories of participants in NSF-supported activities) Societal impacts (benefits, improvements to quality of life)

SUMMARY: NSF STRATEGIC AND PERFORMANCE GOALS			
STRATEGIC GOALS	TRANSFORM THE FRONTIERS	INNOVATE FOR SOCIETY	PERFORM AS A MODEL ORGANIZATION
PERFORMANCE GOALS	<ul style="list-style-type: none"> Make investments that lead to emerging new fields of science and engineering and shifts in existing fields. Prepare and engage a diverse STEM workforce motivated to participate at the frontiers. Keep the United States globally competitive at the frontiers of knowledge by increasing international partnerships and collaborations. Enhance research infrastructure and promote data access to support researchers' and educators' capabilities and enable transformation at the frontiers. 	<ul style="list-style-type: none"> Make investments that lead to results and resources that are useful to society. Build the capacity of the nation's citizenry for addressing societal challenges through science and engineering. Support the development of innovative learning systems. 	<ul style="list-style-type: none"> Achieve management excellence through leadership, accountability, and personal responsibility. Infuse learning as an essential element of the NSF culture with emphasis on professional development and personal growth. Encourage and sustain a culture of creativity and innovation across the agency to ensure continuous improvement and achieve high levels of customer service.

Source: NSF strategic plan For Fiscal years (FY) 2011-2016